Gallup's Quarry 3
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

MEMORANDUM

DATE: September 23, 2002

SUBJ: Five-Year Review
Gallup's Quarry Superfund Site

FROM: Leslie McVickar

THRU: Mary Jane O'Donnell, Chief
ME, VT, and CT Superfund Section

TO: Richard Cavagnero, Acting Director
OSRR

Summary of Action

Attached for your review and signature is the first five-year review report for the Gallup's Quarry Superfund Site, the ("Site") in Plainfield, Connecticut. EPA Region I conducted this review pursuant to CERCLA section 121(c), National Oil and Hazardous Substances Pollution Contingency Plan (NCP) section 300.430(f)(4)(ii), and OSWER Directives 9355.7-02 (May 23, 1991), and 9355.7-02A (July 26, 1994). This is a statutory review, conducted for post-October 17, 1986 Remedial Actions. The purpose of a five-year review is to ensure that a remedial action remains protective of human health and the environment.

The remedy selected to address contamination at the Gallup's Quarry Superfund Site, located in Plainfield, Connecticut, includes installation of additional groundwater monitoring wells, long-term monitored natural attenuation of groundwater and surface water in the vicinity of the Site, institutional controls and five-year reviews.

The Record of Decision (ROD) dated September 30, 1997 describes the source monitoring remedy for the Site as specified in Section X of the ROD. The following are the components of the remedy:

- Institutional controls, including land use restrictions to limit the use and disturbance of contaminated soils at the site and to prevent the use of impacted groundwater;

- Posting of warning signs and periodic maintenance of them;

- Sampling and analysis of contaminated unsaturated soils for contaminants of concern; and

- Conducting long-term sampling and analysis of groundwater, surface water and soil to assess compliance with the groundwater and soil cleanup levels through natural attenuation and to ensure the surface water has not been adversely impacted (cleanup levels were estimated to be attained in a 27 year period).

The site achieved construction completion with the signing of the ROD on September 30, 1997, which is also the trigger date for this five-year review.

The remedy at the Gallup's Quarry Site currently protects human health and the environment because there is no current use of or exposure to site media containing contaminant concentrations exceeding applicable criteria. However, in order for the remedy to be protective in the long-term, the following actions need to be taken:

- Finalize the institutional controls;
- Improve site access control features to reduce recreational use of the site; and
- Determine the reason for the lack of contaminant concentration reduction at MW 107 TT and implement any actions necessary to initiate contaminant reductions.

Issues

In accordance with the ROD, institutional controls were to be implemented as part of the selected remedy. To date the institutional controls for the site have not been finalized.

As reported by Town officials and confirmed during the site walk, access to the Site by recreational trespassers appears to be an ongoing issue. However there is no direct contact risk to soils contaminated above protective levels.

Concentrations of vinyl chloride in groundwater at one monitoring well (107 TT) continue to be encountered at elevated concentrations, exceeding those predicted by the modeling completed during the RI/FS.

Recommendations and Follow-up Actions

Finalize institutional controls for the Site.

Re-assess current site access restrictions and the need to upgrade such features.

Evaluate the cause of continued elevated concentrations of vinyl chloride at MW 107 TT. This effort may require revision of the model or collection of additional data from the site.

Protectiveness Statement

The remedy at the Gallup's Quarry Site currently protects human health and the environment because there is no current use of or exposure to site media containing contaminant concentrations exceeding applicable criteria. However, in order for the remedy to be protective in the long-term, the following actions need to be taken:

Finalize the institutional controls;

Improve site access control features to reduce recreational use of the site; and

Determine the reason for the lack of contaminant concentration reduction at MW 107 TT and implement any actions necessary to initiate contaminant reductions.

Other Comments

The Town of Plainfield has proposed to construct an access road through a portion of the Site. If this proposal receives final approval, the design must consider issues associated with the presence of a Superfund site. Avoiding disturbance of site soils, worker health and safety, certification of any offsite fill materials used and inclusion of appropriate Site access controls must be addressed during design of the road.

Headquarters Perspective/Involvement

Headquarters provided comments on the draft five-year review report as part of its review of all five-year reviews following the June 2001 guidance document "Comprehensive Five-Year Guidance", OSWER No. 9355.7-03B-P. These comments have been addressed.

Public Involvement

There is no established Community Advisory Group. To date EPA, The Connecticut DEP and the Gallup's Quarry Potentially Responsible Party group have encountered little participation or involvement from the local community. All site-related documents are available at the Plainfield Public Library. According to staff at the library there has been limited use of the documents. A notice which briefly summarizes this five-year review will be published in a major local newspaper of general circulation.

Media-Congressional Involvement

There has been no media or congressional involvement regarding the five-year review process.

Recommendation

The selected remedy is protective of human health and the environment, and the above measures will be pursued in Fiscal Year 2003 to correct the major issues discussed above. Therefore, we recommend you sign this five-year review.

Contact Persons

Leslie McVickar, Remedial Project Manager, 918-1374

Attachment: Five-Year Review Report

FIVE-YEAR REVIEW REPORT

GALLUP'S QUARRY SUPERFUND SITE

PLAINFIELD, CONNECTICUT

Prepared by:

U.S. Environmental Protection Agency

Region I

Boston, Massachusetts

Rich Cavagnero, Acting Director
Office of Site Remediation and Restoration

9-26-02
Date

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TABLES

ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

ACRONYM	DEFINITION
ARARs	Applicable or Relevant and Appropriate Requirements
ATVs	all-terrain vehicles
CERCLA	Comprehensive Environmental Response, Compensation, and Liability
CFR	Code of Federal Regulations
COCs	contaminants of concern
CT DEP	Connecticut Department of Environmental Protection
CWA	Clean Water Act
CWR	Chemical Waste Removal, Inc.
DOT	Connecticut Department of Transportation
EPA	United States Environmental Protection Agency
FPDA	Former Primary Disposal Area
FSB	Former Seepage Bed
FSDA	Former Secondary Disposal Area
MCLs	Federal Maximum Contaminant Concentrations
M&E	Metcalf & Eddy, Inc.
mg/kg	milligrams per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NUS/FIT	EPA contractor
O,M&M	operation, maintenance and monitoring
PCE	Ethylbenzene and tetrachloroethene
PRPs	Potentially Responsible Parties
QST	PRP contractor
RA	Remedial Action
RAC	Response Action Contract
RAO	Remedial Action Outcome
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SDWA	Safe Drinking Water Act

TBC	To be considered
TCE	trichloroethene
VOCs	volatile organic compounds
TRC	TRC Environmental Corporation

EXECUTIVE SUMMARY

The remedy selected to address contamination at the Gallup's Quarry Superfund Site, located in Plainfield, Connecticut, includes installation of additional groundwater monitoring wells and long-term monitoring of groundwater and surface water in the vicinity of the Site, and five-year reviews.

The Record of Decision (ROD) describes the source monitoring remedy for the Site as specified in Section X of the ROD. The following are the components of the remedy:

- Institutional controls, including land use restrictions to limit the use and disturbance of contaminated soils at the site and to prevent the use of impacted groundwater;
- Posting of warning signs and periodic maintenance of them;
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- Conducting long-term sampling and analysis of groundwater, surface water and soil to assess compliance with the groundwater cleanup levels through natural attenuation and to ensure the surface water has not been adversely impacted (cleanup levels were estimated to be attained in a 27 year period).

The site achieved construction completion with the signing of the ROD on September 30, 1997, which is also the trigger date for this five-year review.

The remedy at the Gallup's Quarry Site currently protects human health and the environment because there is no current use of or exposure to site media containing contaminant concentrations exceeding applicable criteria. However, in order for the remedy to be protective in the long-term, the following actions need to be taken:

- Finalize the institutional controls;
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- Determine the reason for the lack of contaminant concentration reduction at MW 107 TT and implement any actions necessary to initiate contaminant reductions.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name: Gallup's Quarry Superfund Site		
EPA ID: CTD108960972		
Region: 1	**State: CT**	**City/County: Plainfield/Windham**
SITE STATUS		
NPL status: X Final Deleted Other (specify)		
Remediation status (choose all that apply): Under Construction X Operating Complete		
Multiple OUs?* YES X NO	**Construction completion date:** 9/30 /1997	
Has site been put into reuse? YES X NO		
REVIEW STATUS		
Lead agency: X EPA State Tribe Other Federal Agency _____		
Author name: Michael Plumb, P.E.		
Author title: Engineer	**Author affiliation:** TRC Environmental Corp.	
Review period:** ___ / ___ / _____ to ___ / ___ / _____		
Date(s) of site inspection: 7 / 30 / 2002		
Type of review: X Post-SARA Pre-SARA NPL-Removal only Non-NPL Remedial Action Site NPL State/Tribe-lead Regional Discretion		
Review number: X 1 (first) 2 (second) 3 (third) Other (specify) _____		
Triggering action: Actual RA Onsite Construction at OU #_____ Actual RA Start at OU#____ X Construction Completion V Previous Five-Year Review Report X Other (specify) **Signing of ROD**		
Triggering action date ***(from WasteLAN)*:** ___ / ___ / _____		
Due date ***(five years after triggering action date)*:** ___ / ___ / _____		

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form, cont'd.

Issues:

In accordance with the ROD, institutional controls were to be implemented as part of the selected remedy. To date the institutional controls for the site have not been finalized.

As reported by Town officials and confirmed during the site walk, access to the Site by recreational trespassers appears to be an ongoing issue.

Concentrations of vinyl chloride in groundwater at MW 107 TT continue to be encountered at elevated concentrations, exceeding those predicted by the modeling completed during the RI/FS.

Recommendations and Follow-up Actions:

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Determine the reason for the lack of contaminant concentration reduction at MW 107 TT and implement any actions necessary to initiate contaminant reductions.

Other Comments:

The Town of Plainfield has proposed to construct an access road through a portion of the Site. If this proposal is receives final approval, the design must consider issues associated with the presence of a Superfund site. Avoiding disturbance of site soils, worker health and safety, certification of any offsite fill materials used and inclusion of appropriate Site access controls must be addressed during design of the road.

1.0 INTRODUCTION

The purpose of this five-year review is to determine whether the remedy for the Gallup's Quarry Superfund Site (the Site) is protective of human health and the environment. The methods, findings and conclusions of this review are documented in this Five-Year Review Report. In addition, this report identifies issues found during the conduct of this five-year review along with recommendations to address such issues.

The United States Environmental Protection Agency (EPA) must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA §121(c), as amended, states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

The NCP part 300.430(f)(4)(ii) of the Code of Federal Regulations (CFR) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

Metcalf & Eddy, Inc. (M&E) received Work Assignment No. 143-FRFE-01B7 under EPA's Response Action Contract (RAC) No. 68-W6-0042 to complete a Five-Year Review at the Gallup's Quarry Superfund Site in Plainfield, Connecticut. This report was developed to address the RAC Statement of Work prepared by EPA for the Site, May 2002 (EPA, 2002) and in accordance with TRC's approved Workplan dated July 2002.

M&E assigned primary responsibilities for implementation of most of the tasks in this work assignment to RAC Team Subcontractor, TRC Environmental Corporation (TRC). M&E retained primary responsibility for the overall project administration. As part of this effort a site inspection was performed by Mr. Michael Plumb, P.E. of TRC on behalf of EPA. Mr. Plumb was accompanied on this site inspection by 2 representatives from Harding ESE on behalf of the Gallup's Quarry Superfund Site PRP Committee (PRPs).

This is the first five-year review for the Gallup's Quarry site. This review is required by statute as the selected remedy includes natural attenuation of site contaminants which, in the short term, results in site contaminants remaining at the site at concentrations exceeding those associated

with unrestricted exposure to site media. The trigger for this statutory review is the signing of the Record of Decision on September 30, 1997.

2.0 SITE CHRONOLOGY

The chronology of the site, including all significant site events and dates is included in Table 1.

Table 1: Chronology of Site Events

Event	Date
Unlicensed Waste Disposal at Site	Summer 1997 through December 1997
Initial Site Investigation by CT DEP	January 1978
Initial Cleanup Efforts by Chem-Trol, Inc.	Summer, 1978
Hydrogeologic Investigation (including the installation of 22 groundwater monitoring wells) by Fuss & O'Neill	June 6 to October 30, 1978
Hydrogeologic Report (Evaluation of a Chemical Waste Disposal Area) by Fuss & O'Neill	January 29, 1979
Periodic Monitoring by CT DEP	1979 to 1983
BioDiversity Study by CT DEP	November 4, 1985
EPA's Preliminary Assessment by NUS/FIT	July, 1986
Hazard Ranking System Study by NUS/FIT	September 15, 1987
Proposed NPL listing date	June 24, 1988
NPL listing date	October 4, 1989
Residential Well Sampling by Roy F. Weston	1989
Historical Arial Photo Site Analysis by Bionetics Corp.	November, 1990
Health Assessment by US Department of Health and Human Services	January 30, 1991
Residential Well and Surficial Soil Sampling by Roy F. Weston	January to February, 1993
Groundwater Monitoring and Well Survey by M&E	February, 1993
Draft report on Geohydrology of the Gallup's Quarry Area by USGS	1993
Habitat Characterization by US Fish & Wildlife	June, 1993
Installation of site access controls	August, 1994
Remedial Investigation / Feasibility Study by QST	June, 1997
ROD Signature (Construction Completion Date)	September 30, 1997
Remedial Action Work Plan by Harding ESE	January 22, 2001
Quarterly Groundwater Monitoring Reports by Harding ESE	February to July, 2002

3.0 BACKGROUND

Figure 1, provided in Attachment 1 to this report, shows the location of the Gallup's Quarry Superfund Site at 86 Tarbox Road, in the town of Plainfield, Windham County, Connecticut. The Site is located one-mile southwest of Plainfield Center and approximately 1,800 feet southeast of Plainfield's sewage treatment plant, which is situated at the junction of Mill Brook and Fly Brook. Approximately 700 feet north of the Site, on the opposite side of Mill Brook is an industrial park that includes the Intermark Fabric Corporation facility and the Safety Kleen Corporation. The Site is bounded by Mill Brook and its associated wetlands to the north, single family residences and Route 12 to the east, an active railroad (Providence and Worcester Railroad) and woodlands to the west, and single family residences and Tarbox Road to the south.

Figure 2, provided in Attachment 1 to this report, shows a more detailed map of the Site. The Site encompasses approximately 29 acres, is currently vacant and much of it is heavily vegetated. There are numerous overgrown mounds and excavations throughout the site, which were the result of former quarry activities. There are no structures on site. Currently there is no active use of the property. The Town of Plainfield has proposed the construction of an access road through a portion of the property in the future. The nearest water supply wells to the site are private wells located along Route 12 and Tarbox Road. There are four nearby community water supply wells including the Gallup Water Service, Brookside Acres, Hillsdale Water Company, and the Gallup Water Service/Lillibridge Division. Ground water at the site is classified by the state of Connecticut as GA, meaning that the ground water is presumed to be suitable for direct human consumption without treatment.

Currently, there are no known human or ecological receptors to site contamination. Surface water bodies located within or near the site include Mill Brook, Fry Brook, and Packers Pond. Mill Brook flows from east to west-southwest along the northern and western edges of the site. Mill Brook and Fry Brook ultimately discharge to Packers Pond. The north section of Mill Brook has been classified as B/A by the State of Connecticut, indicating the water body may not be meeting Class A water quality criteria, while the lower portion of Mill Brook has been classified as Bc, indicating that the water body meets Class B and is suitable for cold water fisheries.

3.1 Operational and Regulatory History

In 1951, the Gallup's Quarry Superfund Site operated as a sand and gravel quarry. Records indicate that the site was once used as a source of aggregate and was occupied by the Connecticut Department of Transportation (DOT) to operate an asphalt batching plant.

Beginning in Summer 1977 and continuing until December 1977, drummed and bulk waste materials were illegally disposed of at the Site. During that time period, disposal activities occurred in three distinct locations at the Site: a buried seepage system (the Former Seepage Bed [FSB]) in the elevated central part of the Site and two separate pits at the north end of the Site (the Former Primary Disposal Area [FPDA] and the Former Secondary Disposal Area [FSDA]) into which barrels of waste chemicals and free liquid chemical wastes were dumped. The largest disposal area was the FPDA drum pit in the north-central portion of the Site.

In January 1978, the Connecticut Department of Environmental Protection (CTDEP) and the Connecticut State Police initiated an investigation and concluded that the site was used from Summer 1977 until December 1977 for unlicensed waste disposal. Chemical Waste Removal, Inc. (CWR) of Bridgeport, CT, was discovered to have transported drummed and bulk liquid waste material to the site, as concluded by the evidence collected by CTDEP.

Disposal activities at the Site ceased in January 1978, following the investigation. At the direction of the CTDEP and the Connecticut State Police, investigatory and removal activities occurred at the Site between January and August 1978. These activities included sampling and analysis of soil, ground water, and surface water/sediments from nearby Mill Brook, and the removal of buried drums and contaminated soil. Wastes disposed of at the Site in drums and as free liquid waste included volatile organic compounds (VOCs) and metals. Over 1,600 barrels, 5,000 gallons of bulk liquid waste, and 3,500 tons of contaminated soil were removed from the ground by the CTDEP during its cleanup effort.

It is believed that all drums were recovered during the cleanup efforts. Since the 1978 clean-up operations, periodic monitoring of soil and ground water by the CTDEP, the Connecticut Department of Health, and EPA has been performed. In May 1988, EPA initiated a limited Site Investigation to evaluate the site with respect to conditions for additional removal actions under the National Contingency Plan (NCP). Soil samples collected by EPA confirmed the presence of volatile organic compounds (VOCs), semi-VOCs, and metals. Based on the results of the 1988 Site Investigation, on June 24, 1988 the addition of the site to EPA's National Priorities List (NPL) was proposed. On October 4, 1989, the site was listed on the NPL.

Between 1993 and 1997, the PRPs' consultant, QST, completed and performed the Remedial Investigation/Feasibility Study (RI/FS) at the Site. A risk assessment for the site was completed for EPA by TRC. Studies concluded that VOCs, one semi-VOC and three metals exceeded the ground water cleanup standards and that concentrations of VOCs and one semi-VOC exceeded soil cleanup standards.

5.0 FIVE-YEAR REVIEW PROCESS

This five-year review was conducted in accordance with EPA's guidance document "Comprehensive Five-Year Review Guidance", EPA 540-R-01-007, dated June 2001. Tasks completed as part of this five-year review include review of pertinent site-related documents, interviews with parties associated or familiar with the site, an inspection of the site, and a review of the current status of regulatory or other relevant standards. Site-related documents reviewed as part of this effort are listed in Attachment 2.

6.0 FIVE-YEAR REVIEW FINDINGS

The information gathered during the interviews, site inspection, site data review and review of relevant standards is described in the following subsections.

6.1 Interviews

As required in the EPA Five-Year Review Guidance Document, interviews were conducted with representatives of the EPA, the Connecticut Department of Environmental Protection (CTDEP), the Town of Plainfield, and representatives of the Potentially Responsible Parties (PRPs). Interview Record forms are provided in Attachment 3.

Generally, based on the results of the interviews conducted, implementation of the selected remedy has proceeded without significant issue or concern. Representatives of the Town stated there have essentially been no complaints regarding the site and the associated activities. Town representatives feel information pertaining to the site is readily available to those who may be interested. As information is received it is made available to the public at the library.

From the interviews conducted, three issues were identified, including the finalization of institutional controls for the property, recreational trespassers on the property and approval of a proposed access road across a portion of the property. Each issue is briefly discussed below.

Institutional Controls

(To be provided by EPA)

The Site Access and Institutional Controls Plan is provided in Attachment 4 this report.

Recreational Trespassers

During an interview, Mr. Jason Vincent, of the Town Planners Office, stated that recreational trespassers have been accessing the property with all-terrain vehicles (ATVs). The vicinity of the Former Primary and Secondary Disposal Areas provides an attractive area for ATV use. He believes access is gained via the railroad tracks. Mr. Vincent said his concern was related to potential damage to site features. However, he is not aware of such damage occurring to date.

Proposed Access Road

During discussions with Town representatives the issue of a proposed access road was a repeated topic. The Town wishes to construct an access road through a portion of the property south of the Former Primary and Secondary Disposal Areas to access a planned commercial facility. A figure illustrating the proposed location of the road is included as Attachment 5 to this report. The roadway is proposed to be constructed by raising the surrounding grade with certified clean fill. No excavation of site soils is included as part of the proposal. The elevated grade is necessary to avoid handling site soils as well as to provide required vertical clearance over the

adjacent railroad tracks. Town officials stated the proposal also includes installing fencing at the toe of the slope to restrict access to the site from the proposed road.

6.2 Site Inspection

A site inspection was conducted on July 30, 2002, which included visual inspection of the former source areas, fencing and site groundwater monitoring wells. The site inspection was performed by Mr. Michael Plumb, P.E. of TRC on behalf of EPA. Mr. Plumb was accompanied on this site inspection by 2 representatives from Harding ESE on behalf of the PRPs. The current conditions of the former source areas and monitoring wells were observed during the Site Inspection.

Overall, the site appears in good condition. The fencing and access gate were in good condition and required signage was present. All monitoring wells were located and found to be locked and in good condition.

The Former Seepage Bed area was observed to be heavily overgrown, with no obvious evidence of stressed vegetation. The Former Primary and Secondary Disposal Areas were observed to be absent of vegetation and covered by sand. ATV tracks were noted over both areas, confirming the reports of the Town officials regarding recreational trespassers. ATV tracks were only observed in the vicinity of the FPDA and FSDA. The remainder of the site was found to be heavily overgrown with vegetation.

6.3 Standards Review

6.3.1 ARARs

Applicable or Relevant and Appropriate Requirements (ARARs) for the Gallup's Quarry Site were identified in the ROD (Sept. 1997) and include the following:

- Clean Water Act (CWA)
- Safe Drinking Water Act (SDWA)
- Federal Executive Order 11990 (Protection of Wetlands)
- Connecticut Groundwater Quality Standards
- Connecticut Standards for Public Drinking Water Quality
- Connecticut Remediation Standard Regulations
- Connecticut Surface Water and Wetlands Regulations
- Resource Conservation and Recovery Act (RCRA)
- Closure/Post Closure Requirements for Hazardous Waste Facilities
- Connecticut Hazardous Waste Management Requirements
- Connecticut Control of Noise Regulations
- Connecticut Regulations for the Well Drilling Industry
- Federal Clean Water Regulations governing activities in Wetlands

Additionally, the ROD identifies the following as "To-Be Considered" criteria:

- Federal Drinking Water Health Advisories
- Federal Groundwater Protection Strategy
- Federal Groundwater Use and Value Determination

Since the finalization of the ROD, no changes were implemented in any of the State of Connecticut water quality regulations. The state is in the process of revising their water quality standards and classifications. Revisions to these regulations may be finalized within the next year.

No pertinent technical changes to relevant and appropriate portions of RCRA (40 CFR 264 Subpart G), were implemented since the signing of the ROD. The only changes made to this subpart of the RCRA regulations include: (1) giving the governing agencies the ability to use a variety of authorities to impose requirements based on the particular facility; (2) modifications to the regulations to allow facilities to address certain units through the corrective action program; and (3) specification of Part B information submission requirements for facilities that receive post-closure permits.

State of Connecticut regulations governing well drilling industry and noise generation are applicable during the installation of additional monitoring wells. At this time there are no plans for such activities. Therefore, requirements associated with these regulations are not applicable at this time.

The SDWA was last amended in 1996. No changes have been promulgated since 1997 in the Federal Maximum Contaminant Concentrations (MCLs) under the SDWA with respect to site-related contaminants of concern (COCs) in groundwater.

Connecticut Hazardous Waste Management Requirements were subject to revisions finalized on June 25, 2002. Notable changes to the regulations include: (1) changes to the standards for used oil generators, transporters, processors, re-refiners, burners and marketers; (2) the universal waste rule, which established reduced management requirements for hazardous waste batteries, thermostats, pesticides and lamps; and (3) the addition of used electronics to the State's universal waste rule. None of these changes impact the remedy being implemented at the Site.

6.3.2 Toxicity and Chemical Characteristics

TRC examined the EPA's Integrated Risk Information System (www.epa.gov/IRIS) and the Superfund Risk Assessment Tools of the Trade web page (www.epa.gov/superfund/programs/risk/tooltrad.htm#gp) to identify any changes in toxicities or chemical characteristics that have been identified since the 1997 Record of Decision. Attachment 6 contains several tables that list the contaminants of concern for each of the original exposure pathways evaluated in the Human Health Risk Assessment. Chemicals whose toxicities have changed since the Human Health Risk Assessment was performed are highlighted with black cells.

Tables A-1 through A-9 in Attachment 6 also present revised calculations for the Human Health Risk Assessment using the updated toxicity values. The spreadsheets provide both the cancer and non-cancer endpoints for each scenario on one spreadsheet.

Table A-10 presents a summary of the original risk values and the updated risk numbers. This table shows that unacceptable cancer and non-cancer risks associated with the future site employee and an unacceptable cancer risk associated with the current/future trespasser are present in both the original and updated calculations.

The revised calculations show that the unacceptable risk calculated for future site employee increased. The increase is due to more conservative oral slope factors and reference doses for the identified Constituents of Concern. However, the unacceptable risk calculated for the trespasser is now at but does not exceed the cancer risk value of 1E-06. The reason for the decrease in the cancer risk value is a reduction of the cancer slope factor for the PCBs from 7.7 $(mg/kg\text{-}day)^{-1}$ to 2.0 $(mg/kg\text{-}day)^{-1}$.

6.4 Data Review

In order to monitor the natural attenuation of Site-related contamination, a long term monitoring program has been implemented, as required by the ROD. Based on the results of the Remedial Investigation (RI), contaminants associated with the Site have been found to be present in soil (mainly within the FPDA), surface water and in groundwater. A data review for each media is summarized below. Figures 3, 4 and 5 presented in Attachment 1 to this report summarize data collected over the past five years for soil, surface water and groundwater, respectively.

Soils

Due to the presence of site-related contaminants in soils at concentrations exceeding applicable criteria, periodic sampling and analysis of soils was included in the selected remedy. In accordance with the Remedial Action Work Plan, sampling of site soils is to be performed once every five years to allow for the evaluation of whether these concentrations are reducing over time. Since the completion of the RI in 1997, only one round of soil sampling and analysis has been completed (in November 2001) as part of the remedy implementation. Therefore, evaluation of contaminant concentration trends in soils is limited at this time to a comparison of the concentrations encountered during the November 2001 event and the concentrations encountered at the time of the RI.

Soil samples collected as part of the long term monitoring program were obtained from within the footprint of the FPDA and the FSB, and submitted to a laboratory for chemical analysis. Comparison of the analytical results from this event against those results obtained during the RI does not appear to present a clear trend in contaminant reductions. In some cases, contaminant concentrations were found to have significantly reduced, such as ethylbenzene and tetrachloroethene (PCE) in soil boring SB115, which reduced from 16 milligrams per kilogram (mg/kg) to 0.004 mg/kg and 28 mg/kg to 0.024 mg/kg, respectively.

However, in other cases, concentrations have basically remained the same, such a bis(2-ethylhexyl)phthalate in soils borings SB109 and SB107. At soil borings SB108 and SB114 detected VOC (with the exception of chloromethane in SB108) contaminant concentrations have essentially remained the same or increased.

Based on the currently limited database available regarding contaminant concentrations in site soils over time and the inherent heterogeneity of soils in general, a clear trend in contaminant concentrations cannot be identified at this time.

Surface Water

In accordance with the ROD, surface water sampling and analysis is included in the long term monitoring program for the site. As specified in the Remedial Action Work Plan, surface water samples are to be collected and analyzed during the first groundwater monitoring event and then annually thereafter. Only one round of surface water samples, in November 2001, has been collected since the completion of the RI. Therefore, as noted with respect to site soils, the data evaluation is limited at this time to a comparison between analytical results obtained during the RI and those obtained during the November 2001 event.

Surface water sample locations include the following:

- Mill Brook upgradient of the site
- Mill Brook near MW 101
- Mill Brook downgradient of Fry Brook
- Fry Brook upgradient of its confluence with Mill Brook
- Packers Pond at the mouth of Mill Brook.

Based on the analytical results presented in the first quarterly groundwater monitoring report (Harding ESE, Feb. 2002), trace levels of VOC concentrations remain in the surface waters of Mill Brook and Fry Brook. With the exception of trichloroethene (TCE) in the sample from location UB-4, all detected compounds were encountered at concentrations exceeding or equal to those concentrations encountered during the May 1997 sampling event. The maximum VOC concentration encountered during the November 2001 event was PCE, detected at a concentration of 4 ug/L in the sample from Fry Brook.

All detections were found to be well below applicable surface water criteria. Therefore, while contaminant concentrations in surface water are apparently not decreasing with time, the concentrations being encountered do not impact the protectiveness of the overall remedy at this time.

Groundwater

Periodic monitoring of groundwater quality at the Site was initiated during the RI, with the first round of groundwater sampling having been completed in January of 1995. Periodic monitoring of groundwater quality was conducted during the RI on a quarterly basis from January 1995 through May 1997. No groundwater sampling and analysis was conducted between June 1997

and October 2001. The long term groundwater monitoring program conducted in accordance with the Remedial Action Work Plan was initiated in November 2001. Results of quarterly groundwater monitoring are subsequently documented in quarterly reports submitted to EPA by Harding ESE on behalf of the Gallup's Quarry Superfund Site PRP Committee.

At the time of this Five-Year Review only three rounds of groundwater sampling and analysis has been conducted under this program. This limitation results in a reduced ability to fully evaluate data trends at this time. The objective of a long term monitoring program is to monitor contaminant concentration trends over time. Such a program needs to evaluate concentration fluctuations during differing times of year as well as overall trends from year to year. Therefore, data trend analyses at this time are somewhat limited to a comparison of contaminant concentrations encountered between November 2001 and May 2002 to those encountered during the RI.

While as many as 50 groundwater monitoring wells were once present at and in the vicinity of the Site, the number of wells subjected to periodic groundwater sampling and analysis has been reduced to 18, with an additional 4 wells (the MW 116 and MW 118 well pairs) to be sampled on a contingency basis. The list of wells currently being monitored was identified in the Remedial Action Work Plan. Those wells not included in the long term monitoring program are being decommissioned in accordance with the Remedial Action Work Plan.

The groundwater monitoring well network being utilized for groundwater monitoring includes wells screened within three distinct zones within the overburden materials. Shallow monitoring wells, with screened intervals intercepting the groundwater table have the suffix "S" after their location designation. Monitoring wells with screened intervals at the top of the till layer and within the till layer have the suffix "TT" and "T" respectively.

Of the 18 groundwater monitoring wells being subjected to quarterly sampling and analysis, 7 have been found to contain contaminant concentrations exceeding applicable groundwater criteria. These wells include MW 101 TT and T; MW 102 S and TT; MW 105 TT and T; and MW 107 TT. Generally, groundwater contaminant concentrations within these wells have experienced significant reductions from those encountered during the RI. In most cases, contaminant concentrations have reduced to the single to double digit microgram per liter (ug/L) range.

One notable exception to this trend is groundwater within monitoring well MW 107 TT. Concentrations of vinyl chloride in groundwater at this location have remained within a range of 150 to 200 ug/L. As noted in the most recent Quarterly Groundwater Monitoring Report (Harding ESE, July 12, 2002), the groundwater modeling conducted during the RI/FS estimated vinyl chloride concentrations in MW 107 TT to be in the approximate range of 1-10 ug/L by 2001. This discrepancy may indicate either that the expected factors contributing to the natural attenuation of contaminants in the vicinity of MW 107 TT are not as predicted that there may be some unknown residual soils contamination.

7.0 ASSESSMENT

This section addresses the three technical assessment questions identified in the EPA's Five-Year Review guidance document as noted below:

Question A: *Is the remedy functioning as intended by the decision documents?*

Question B: *Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?*

Question C: *Has any other information come to light that could call into question the protectiveness of the remedy?*

The following discussion details how each question has been answered based on the findings of this five-year review.

Question A: Is the remedy functioning as intended by the decision documents?

Due to the fact that institutional controls have yet to be finalized for the property, the remedy, as prescribed in the ROD has not yet been fully implemented. While no one is currently using the site or associated contaminated water, this does not impact the remedy's protectiveness at this time. However, should the institutional controls not be finalized, this could impact the remedy's protectiveness in the future.

Otherwise, the remedy appears to be functioning in accordance with the design documents. Significant reductions in contaminant concentrations in groundwater were noted at most groundwater monitoring wells. The only exception noted is monitoring well MW 107 TT, where elevated concentrations of vinyl chloride continue to be encountered. Since no one is using the groundwater at the site as a potable water supply, this does not impact the protectiveness of the remedy at this time. However, should concentrations remain elevated, the remedy will not achieve the goals of the ROD and therefore will not be protective in the future.

With respect to surface water and soils, only a single round of post-ROD sampling and analysis has been performed to date. This limited database limits the ability to develop conclusive determinations as to the overall trends in contaminant concentrations. Within the limits of the existing database, no conclusive trend is readily evident at this time. This is due to the fact that contaminant concentrations are noted to increase at some locations while remaining essentially the same of decreasing at other locations.

As the selected remedy for the Site is natural attenuation, there are no remedial systems present requiring operation and maintenance. The only operation and maintenance activities required at the site are associated with repairing any damage incurred by vandals or natural causes. Access controls at the site include fencing and warning signs. As noted during interviews with Town officials and during the site inspection, these features are not preventing access to the site by recreational trespassers. Since shallow and surface soil contamination has been removed from

the site, this does not appear to pose an immediate threat of exposure of these trespassers to site contaminants. However, this would appear to increase the potential for vandalism of site wells.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of remedy selection still valid?

The site inspection and interviews with local officials have found the exposure scenarios associated with site-related contaminated media and RAOs remain valid. No change in land use has occurred in the last five years. The Town of Plainfield has proposed construction of a road through a portion of the site in the future. Final EPA and State approval of this project is currently being sought by the Town. This project would not involve excavation of any site soils and the Town officials stated during interviews that fencing would be installed to control access to the site from the road.

Based on a review of ARARs and TBC criteria, toxicity data and cleanup levels used at the time of the risk assessment remain valid.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

From all of the activities conducted as part of this five-year review, no new information has come to light which would call into questions the effectiveness of the remedy. No new human or ecological receptors have been identified at this time. No evidence of damage due to natural disasters was noted during the site inspection.

8.0 ISSUES

Based on the activities conducted during this Five-Year Review, the issues identified in Table 2 have been noted

Table 2: Issues

Issues	Affects Current Protectiveness	Affects Future Protectiveness
In accordance with the ROD, institutional controls were to be implemented as part of the selected remedy. To date the institutional controls for the site have not been finalized.	N	Y
As reported by Town officials and confirmed during the site walk, access to the Site by recreational trespassers appears to be an ongoing issue.	N	N
Concentrations of vinyl chloride in groundwater at MW 107 TT continue to be encountered at elevated concentrations, exceeding those predicted by the modeling completed during the RI/FS.	N	Y

9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

In response to the issues noted above, it is recommended that the actions listed in Table 3 be taken:

Table 3: Recommendations and Follow-up Actions

Issue	Recommendations and Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date	Affects Protectiveness	
					Current	Future
Institutional Controls	Finalization of institutional controls for the Site	PRP	EPA/CTDEP		N	Y
Site Access	Re-assess current site access restrictions and the need to upgrade such features	PRP	EPA/CTDEP		N	N
Limited Contaminant Reduction in Monitoring Well MW 107 TT	Evaluate the cause of continued elevated concentrations of vinyl chloride at MW 107 TT. This effort may require revision of the model or collection of additional data from the site	PRP	EPA/CTDEP		N	Y

10.0 PROTECTIVENESS STATEMENT

The remedy at the Gallup's Quarry Site currently protects human health and the environment because there is no current use of or exposure to site media containing contaminant concentrations exceeding applicable criteria. However, in order for the remedy to be protective in the long-term, the following actions need to be taken:

- Finalize the institutional controls;
- Improve site access control features to reduce recreational use of the site; and
- Determine the reason for the lack of contaminant concentration reduction at MW 107 TT and implement any actions necessary to initiate contaminant reductions.

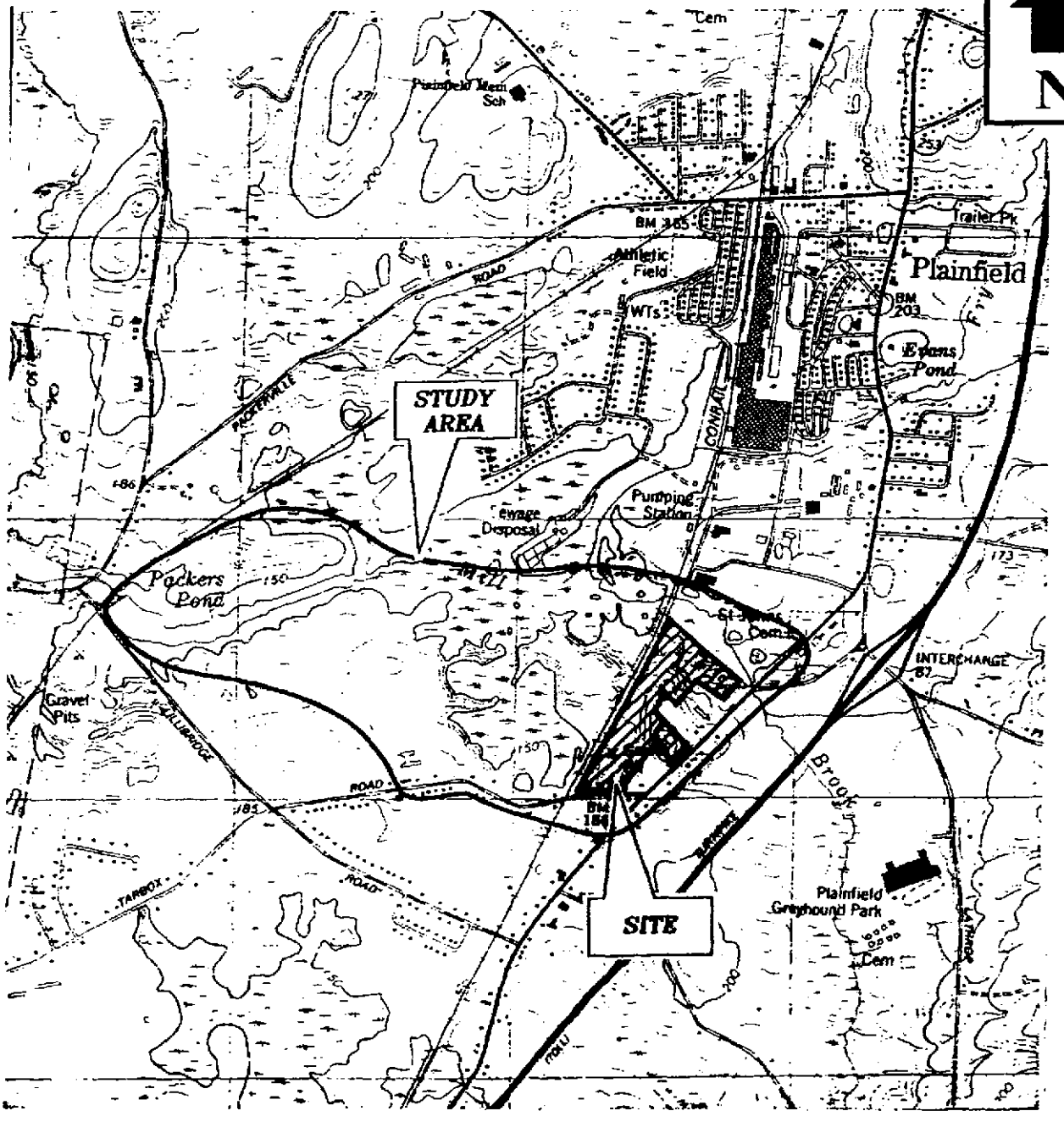
11.0 NEXT REVIEW

The due date for this first five-year review of the Gallup's Quarry Site is September 30, 2002. Therefore, the next five-year review should be completed by September 30, 2007. The next review should include a complete review of data generated under the long term monitoring program to confirm that contaminant concentration reductions continue, allowing for seasonal variations. The next review should also include an evaluation of any improvements to site access control features and the effectiveness of institutional controls for the Site once they are finalized.

ATTACHMENTS

ATTACHMENT 1

SITE MAPS



BASE MAP IS A PORTION OF THE FOLLOWING 7.5' USGS TOPOGRAPHIC QUADRANGLE: PLAINFIELD, CT, 1983

SOURCE: QST ENVIRONMENTAL, REMEDIAL INVESTIGATION REPORT, JUNE 1997

0 .5 1

scale in miles

Figure 1

SITE LOCATION MAP

GALLUP'S QUARRY
PLAINFIELD, CONNECTICUT

Metcalf & Eddy

TRC

Booth Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

QUADRANGLE LOCATION

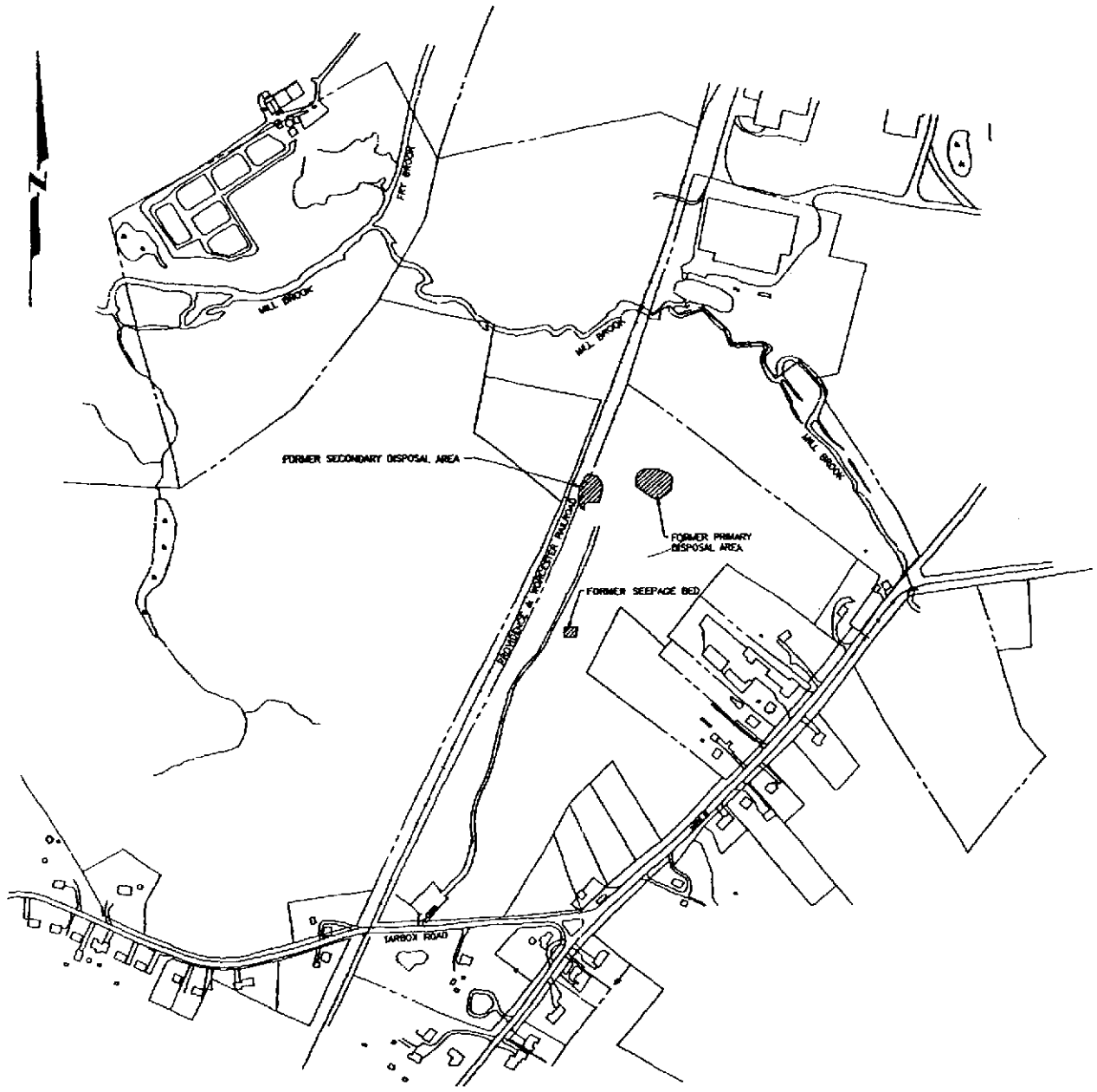
CT

TRC PROJ. NO.: 02136-0500-01B76

EPA CONTRACT NO.: 68-W6-0042

RAC SUBCONTRACT NO.: 107061

02136/GALLUPS/5-YR REVIEW/TOPO



SOURCE: QST ENVIRONMENTAL, FEASIBILITY STUDY, JUNE 1997

Legend:

Watercourse

Property Boundary

Approximate Locations of Former Disposal Area

0 500 1000

scale in feet

Notes:

1. Base plan provided by U.S.E.P.A., Drawing No. 707600, Dated 14 October 1993.
2. Horizontal Datum – Connecticut State Plan Coordinate System, North American Datum of 1927.
3. Property Boundaries obtained from Town of Plainfield Tax Assessor's Office.

Figure 2

LOCATION OF FORMER DISPOSAL AREAS

GALLUP'S QUARRY
PLAINFIELD, CONNECTICUT

Metcalf & Eddy

TRC

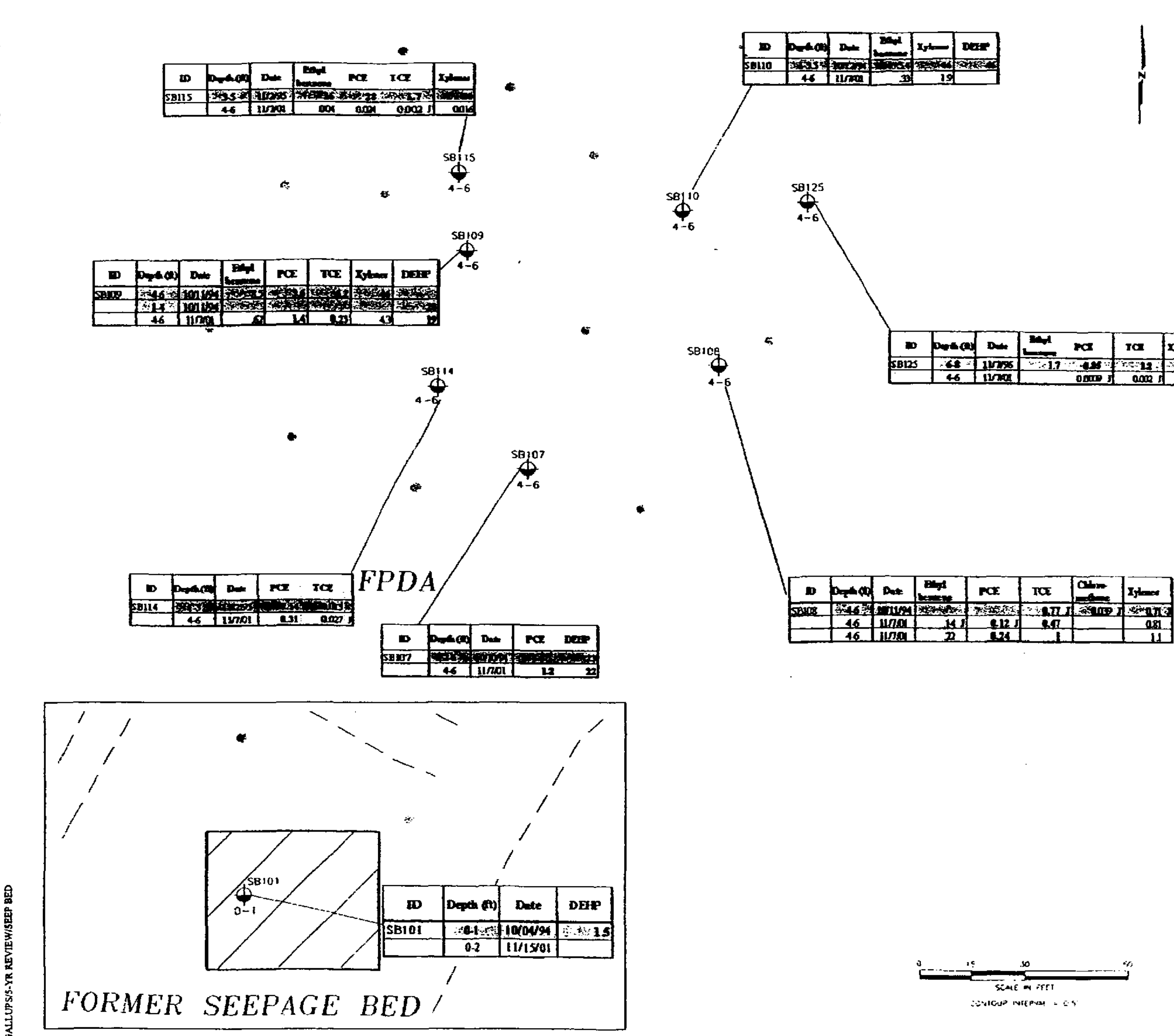
Boott Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

TRC PROJ. NO.: 02136-0500-01B76

EPA CONTRACT NO.: 68-W6-0042

RAC SUBCONTRACT NO.: 107061

02136/GALLUPS/5-YR REVIEW/DISPOSAL AREAS



ID	Depth (ft)	Date	Ethyl benzene	PCE	TCE	Xylenes
SB115	3.5	11/2/95	[illegible]	[illegible]	[illegible]	[illegible]
	4-6	11/7/01	0.04	0.024	0.002 J	0.016

ID	Depth (ft)	Date	Ethyl benzene	PCE	TCE	Xylenes	DEHP
SB109	4-6	10/11/94	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	1-4	10/11/94	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	4-6	11/7/01	62	1.4	0.23	43	19

ID	Depth (ft)	Date	Ethyl benzene	Xylenes	DEHP
SB110	3.5	10/12/94	[illegible]	[illegible]	[illegible]
	4-6	11/7/01	33	19	

ID	Depth (ft)	Date	Ethyl benzene	PCE	TCE	Xylenes
SB125	6-8	11/7/96	1.7	0.85	12	18
	4-6	11/7/01		0.0019 J	0.002 J	0.0019 J

ID	Depth (ft)	Date	PCE	TCE
SB114	[illegible]	[illegible]	[illegible]	[illegible]
	4-6	11/7/01	0.31	0.027 J

ID	Depth (ft)	Date	PCE	DEHP
SB107	[illegible]	[illegible]	[illegible]	[illegible]
	4-6	11/7/01	1.2	22

ID	Depth (ft)	Date	Ethyl benzene	PCE	TCE	Chloromethane	Xylenes
SB108	4-6	10/11/94	[illegible]	[illegible]	0.77 J	0.039 J	0.71 J
	4-6	11/7/01	14 J	0.12 J	0.47		0.81
	4-6	11/7/01	22	0.24	1		1.1

ID	Depth (ft)	Date	DEHP
SB101	0-1	10/04/94	1.5
	0-2	11/15/01	

LEGEND

LOCATION OF RI/FS SOIL BORING

LOCATION OF NOVEMBER 2001 SOIL BORING

DEPTH INTERVALS (DI) SUBMITTED FOR LABORATORY ANALYSIS (FT. BELOW GROUND SURFACE) { 0-1, 4-6 }

GROUND SURFACE ELEVATION CONTOUR (BASED ON NOV. 1996 SURVEY)

ALL CONCENTRATIONS ARE IN mg/kg. CONCENTRATIONS IN **BOLD** EXCEED THE CLEANUP LEVEL.
GREY SHADING REPRESENTS HISTORICAL DATA.

NOTES:

1. HORIZONTAL DATUM – CONNECTICUT STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1927
2. SAMPLE DEPTH INTERVALS SHOWN FOR ALL LOCATIONS ARE RELATIVE TO THE GROUND SURFACE TOPOGRAPHY AT THE TIME OF THE 10/01 SURVEY

SOURCE:
HARDING ESE, QUARTERLY GROUNDWATER MONITORING REPORT-NOVEMBER 2001. FEBRUARY 11, 2002

Figure 3
NOV. 2001 SOIL SAMPLING LOCATIONS-FDPA AND FORMER SEEPAGE BED
GALLUP'S QUARRY
PLAINFIELD, CONNECTICUT

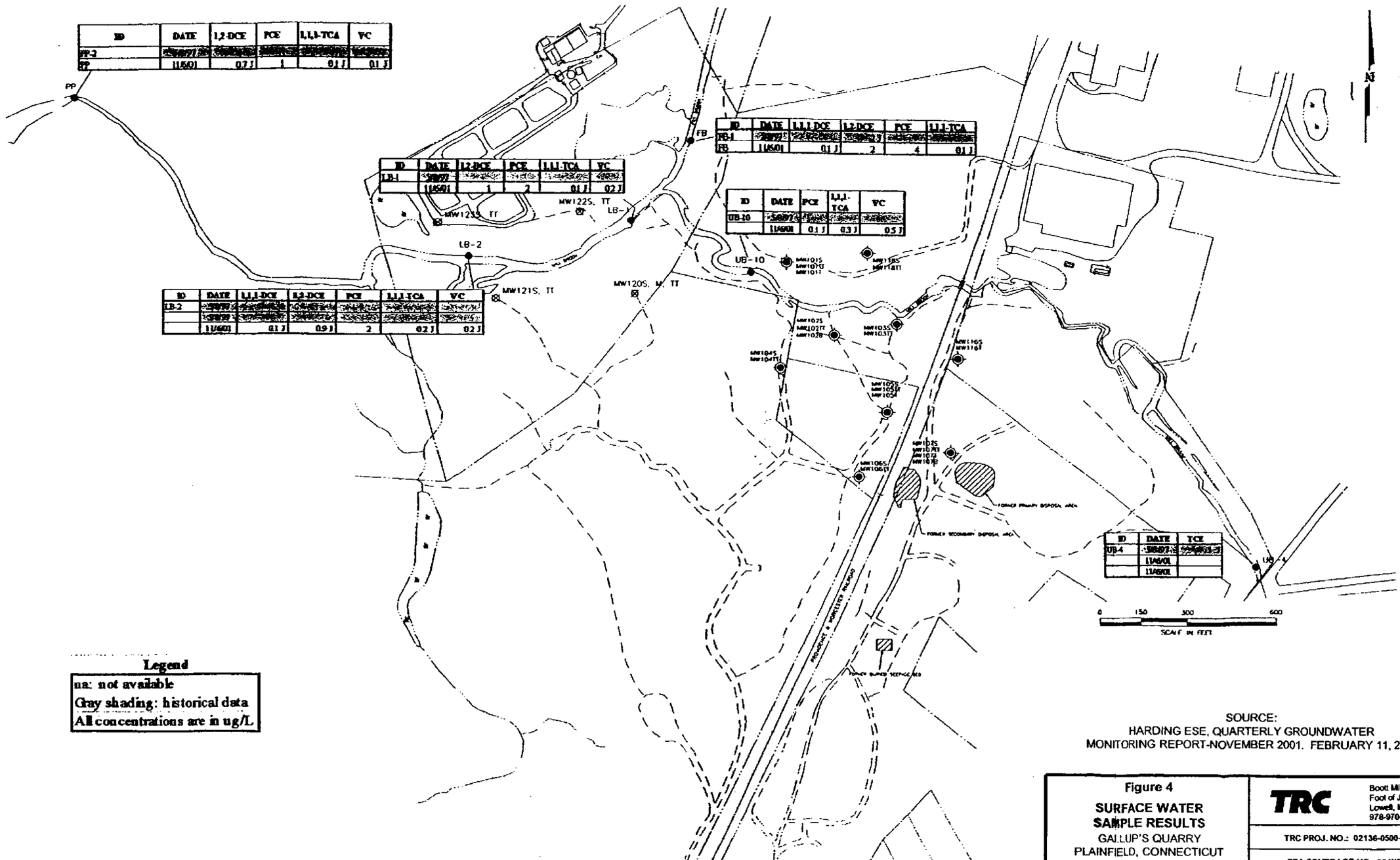
M&E Metcalf & Eddy

TRC
Boott Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

TRC PROJ. NO.: 02136-0500-01B76

EPA CONTRACT NO.: 68-W6-0042

RAC SUBCONTRACT NO.: 107061



Legend

na: not available
Gray shading: historical data
All concentrations are in ug/L

SOURCE:
HARDING ESE, QUARTERLY GROUNDWATER MONITORING REPORT-NOVEMBER 2001. FEBRUARY 11, 2002

Figure 4

SURFACE WATER SAMPLE RESULTS

GALLUP'S QUARRY
PLAINFIELD, CONNECTICUT

Metcalf & Eddy

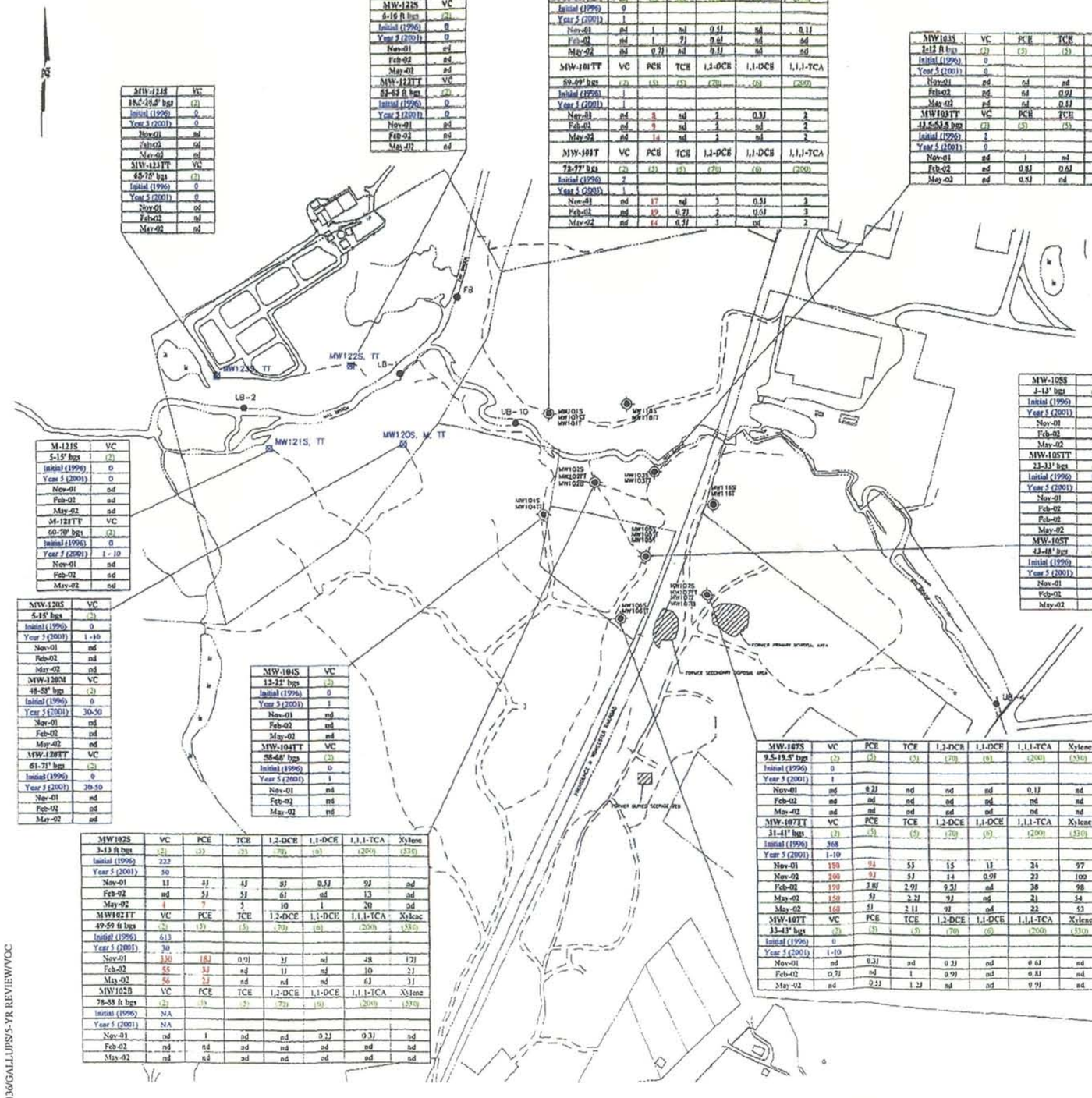
TRC
Boott Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

TRC PROJ. NO.: 02136-0500-01B76

EPA CONTRACT NO.: 68-W6-0042

RAC SUBCONTRACT NO.: 107061

02136/GALLUPS/5-YR REVIEW/SURF WATER



MW-121S	VC
6-16 ft bgs	(2)
Initial (1996)	0
Year 5 (2001)	0
Nov-01	nd
Feb-02	nd
May-02	nd
MW-123TT	VC
55-65 ft bgs	(2)
Initial (1996)	0
Year 5 (2001)	0
Nov-01	nd
Feb-02	nd
May-02	nd

MW-121S	VC
16.5-26.5' bgs	(2)
Initial (1996)	0
Year 5 (2001)	0
Nov-01	nd
Feb-02	nd
May-02	nd
MW-123TT	VC
65-75' bgs	(2)
Initial (1996)	0
Year 5 (2001)	0
Nov-01	nd
Feb-02	nd
May-02	nd

M-121S	VC
5-15' bgs	(2)
Initial (1996)	0
Year 5 (2001)	0
Nov-01	nd
Feb-02	nd
May-02	nd
M-123TT	VC
60-70' bgs	(2)
Initial (1996)	0
Year 5 (2001)	1 - 10
Nov-01	nd
Feb-02	nd
May-02	nd

MW-120S	VC
5-15' bgs	(2)
Initial (1996)	0
Year 5 (2001)	1 -10
Nov-01	nd
Feb-02	nd
May-02	nd
MW-120M	VC
48-58' bgs	(2)
Initial (1996)	0
Year 5 (2001)	30-50
Nov-01	nd
Feb-02	nd
May-02	nd
MW-120TT	VC
61-71' bgs	(2)
Initial (1996)	0
Year 5 (2001)	30-50
Nov-01	nd
Feb-02	nd
May-02	nd

MW-104S	VC
12-22' bgs	(2)
Initial (1996)	0
Year 5 (2001)	1
Nov-01	nd
Feb-02	nd
May-02	nd
MW-104TT	VC
58-68' bgs	(2)
Initial (1996)	0
Year 5 (2001)	1
Nov-01	nd
Feb-02	nd
May-02	nd

MW-101S	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA
18-28' bgs	(2)	(5)	(5)	(70)	(6)	(200)
Initial (1996)	0					
Year 5 (2001)	1					
Nov-01	nd	1	nd	0.5J	nd	0.1J
Feb-02	nd	1	7J	0.6J	nd	nd
May-02	nd	0.7J	nd	0.5J	nd	nd
MW-101TT	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA
59-69' bgs	(2)	(5)	(5)	(70)	(6)	(200)
Initial (1996)	1					
Year 5 (2001)	1					
Nov-01	nd	8	nd	2	0.5J	2
Feb-02	nd	9	nd	2	nd	2
May-02	nd	14	nd	3	nd	2
MW-101T	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA
72-77' bgs	(2)	(5)	(5)	(70)	(6)	(200)
Initial (1996)	2					
Year 5 (2001)	1					
Nov-01	nd	17	nd	3	0.5J	2
Feb-02	nd	19	0.7J	2	0.6J	3
May-02	nd	14	0.5J	3	nd	2

MW-103S	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA
3-13 ft bgs	(2)	(5)	(5)	(70)	(6)	(200)
Initial (1996)	0					
Year 5 (2001)	0					
Nov-01	nd	nd	nd	0.5J	nd	nd
Feb-02	nd	nd	0.9J	nd	nd	nd
May-02	nd	nd	0.5J	nd	nd	nd
MW103TT	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA
43.5-53.5 bgs	(2)	(5)	(5)	(70)	(6)	(200)
Initial (1996)	1					
Year 5 (2001)	0					
Nov-01	nd	1	nd	3	0.6J	0.5J
Feb-02	nd	0.8J	0.6J	4	nd	nd
May-02	nd	0.5J	nd	4	nd	nd

MW-105S	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
3-13' bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	8						
Year 5 (2001)	1						
Nov-01	nd	0.4J	nd	0.1J	nd	1	nd
Feb-02	nd	nd	nd	nd	nd	nd	nd
May-02	nd	nd	nd	nd	nd	nd	nd
MW-105TT	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
23-33' bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	839						
Year 5 (2001)	30						
Nov-01	120	4J	1J	5J	nd	3J	5G
Feb-02	64	1J	0.8J	1J	nd	5J	nd
Feb-02	62	1J	0.7J	1J	nd	6J	nd
May-02	29	nd	nd	2.9J	nd	5J	4J
MW-105T	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
43-48' bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	762						
Year 5 (2001)	100						
Nov-01	83	2J	1J	24	0.9J	14	9J
Feb-02	17	1J	1J	23	nd	5J	nd
May-02	21	nd	nd	32	nd	3J	nd

MW-102S	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
3-13 ft bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	222						
Year 5 (2001)	50						
Nov-01	1J	4J	4J	8J	0.5J	9J	nd
Feb-02	nd	5J	5J	6J	nd	13	nd
May-02	4	7	3	10	1	20	nd
MW102TT	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
49-59 ft bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	613						
Year 5 (2001)	30						
Nov-01	330	18J	0.9J	3J	nd	48	17J
Feb-02	55	3J	nd	1J	nd	10	2J
May-02	56	2J	nd	nd	nd	6J	3J
MW102B	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
78-88 ft bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	NA						
Year 5 (2001)	NA						
Nov-01	nd	1	nd	nd	0.2J	0.3J	nd
Feb-02	nd	nd	nd	nd	nd	nd	nd
May-02	nd	nd	nd	nd	nd	nd	nd

MW-107S	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
9.5-19.5' bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	0						
Year 5 (2001)	1						
Nov-01	nd	0.2J	nd	nd	nd	0.1J	nd
Feb-02	nd	nd	nd	nd	nd	nd	nd
May-02	nd	nd	nd	nd	nd	nd	nd
MW-107TT	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
31-41' bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	568						
Year 5 (2001)	1-10						
Nov-01	150	9J	5J	15	1J	24	9J
Nov-02	200	9J	5J	14	0.9J	23	10J
Feb-02	190	3.8J	2.9J	9.5J	nd	38	9J
May-02	150	5J	2.2J	9J	nd	21	5J
May-02	160	5J	2.1J	9J	nd	22	5J
MW-107T	VC	PCE	TCE	1,2-DCE	1,1-DCE	1,1,1-TCA	Xylene
33-43' bgs	(2)	(5)	(5)	(70)	(6)	(200)	(530)
Initial (1996)	0						
Year 5 (2001)	1-10						
Nov-01	nd	0.3J	nd	0.2J	nd	0.6J	nd
Feb-02	0.7J	nd	1	0.9J	nd	0.8J	nd
May-02	nd	0.5J	1.2J	nd	nd	0.9J	nd

MW-106S	VC	1,1,1-TCA
10-20' bgs	(5)	(200)
Initial (1996)	0	
Year 5 (2001)	0	
Nov-01	nd	nd
Feb-02	nd	nd
May-02	nd	nd
MW-106TT	VC	1,1,1-TCA
21-26' bgs	(5)	(200)
Initial (1996)	0	
Year 5 (2001)	0	
Nov-01	nd	0.1J
Feb-02	nd	nd
May-02	nd	nd

Legend	
1-10	model initial condition or simulated prediction
10	exceeds cleanup level
(2)	cleanup level
All concentrations are in ug/L.	
nd: not detected	
bgs: below ground surface	

0 150 300 600
SCALE IN FEET

SOURCE:
HARDING ESE, QUARTERLY GROUNDWATER MONITORING REPORT-MAY 2002. JULY 12, 2002

02136/GALLUPS/5-YR REVIEW/VOC

Figure 5

DISTRIBUTION OF VOC IN GROUNDWATER AND COMPARISON TO FS MODEL INITIAL CONDITIONS AND SIMULATED PREDICTIONS-MAY 2002

GALLUP'S QUARRY
PLAINFIELD, CONNECTICUT

M&E Metcalf & Eddy

TRC
Boott Mills South
Foot of John Street
Lowell, MA 01852
978-970-5600

TRC PROJ. NO.: 02136-0500-01B76

EPA CONTRACT NO.: 68-W6-0042

RAC SUBCONTRACT NO.: 107061

ATTACHMENT 2

LIST OF DOCUMENTS REVIEWED

- Remedial Investigation Report, prepared by QST Environmental, dated June 1997
- Feasibility Study, prepared by QST Environmental, dated June 1997
- Record of Decision, dated September 30, 1997
- Remedial Action Work Plan prepared by ESE, June 2000, revision dated January 22, 2001
- Remedial Action Work Plan Addendum, dated March 14, 2001
- Institutional Controls Work Plan and related documentation
- Quarterly Monitoring Report: November 2001, prepared by Harding ESE, dated February 11, 2002
- Quarterly Monitoring Report: February 2002, prepared by Harding ESE, dated April 16, 2002
- Quarterly Monitoring Report: May 2002, prepared by Harding ESE, dated July 12, 2002

ATTACHMENT 3

INTERVIEW DOCUMENTATION

INTERVIEW DOCUMENTATION FORM

The following is a list of individual interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Leslie McVickar	Remedial Project Manager	U.S. EPA	July 22, 2002
Jason Vincent	Town Planner	Town of Plainfield	July 30, 2002
Mike Saad	Director – Economic Development	Town of Plainfield	July 30, 2002
David Allard	First Selectmen	Town of Plainfield	July 30, 2002
Gary Wilson	Project Manager	Harding ESE	July 30, 2002
Richard Mercier	Former Owner	Water Company	August 1, 2002
Mark Lewis	Environmental Analyst	CT DEP Eastern	August 1, 2002
Jeff Young	Supervisor	POTW–North Branch	August 1,2002
Randy Campaign	Assistant Manager of Administration and Customer Service	Crystal Water (Gallup' Water)	August 20, 2002
Tricia Haught	PRP Representative	Gallup's Quarry Superfund Site PRP Committee	August 6, 2002

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 4:30 pm **Date:** 7/22/02
Type: X Telephone Visit Other **Location of Visit:**		Incoming X Outgoing

Contact Made By:

Name: Mike Plumb/Amy Hamilton	**Title:** Engineers	**Organization:** TRC Environmental

Individual Contacted:

Name: Leslie McVickar	**Title:** Remedial Project Manager	**Organization:** U.S. EPA
Telephone No: (617) 918-1374 **Fax No:** **E-Mail Address:**	**Street Address:** 1 Congress Street, Suite 1100 **City, State, Zip:** Boston, MA 021142023	

Summary Of Conversation

Q1: What is your overall impression of the project?

A1: Leslie feels overall, things are going fine. She believes the five-year review should go relatively smoothly and that there are not a lot of significant outstanding issues.

Q2: Are you aware of any issues the five-year review should focus on?

A2: Leslie feels one of the most significant issues at this time is the finalization of the institutional controls plan for the site. The status of this issue will most likely evolve even as the review progresses. Leslie asked TRC to submit the draft version of the report, leaving a "place marker" for the summary of the status on institutional controls. She stated she would like to provide the summary for the final version.

Leslie is aware that the Town would like to construct a road through a portion of the property and thinks the status of this project should be mentioned in the five-year review due to the potential impact to the site.

Leslie stated she had heard of some residential well sampling that had been performed and asked that this information be located during the review process.

Q3: Beyond those persons specifically identified in the SOW, who should TRC speak to in the community to solicit local input?

A3: Leslie suggested TRC work with Jason Vincent, of the Town of Plainfield Planners Office, to identify local persons to be included in the interview process.

INTERVIEW RECORD

Site Name: Gallup's Quarry	**EPA ID No.:** CTD108960972

Subject: Five Year Review		**Time:** 1:00 pm	**Date:** 7/30/02
Type: Telephone X Visit Other **Location of Visit:** Gallup's Quarry Site		Incoming Outgoing	
Contact Made By:			
Name: Mike Plumb	**Title:** Engineer	**Organization:** TRC Environmental	
Individual Contacted:			
Name: Gary Wilson	**Title:** Project Manager	**Organization:** Harding ESE	
Telephone No: (603) 889-3737 **Fax No:** **E-Mail Address:**		**Street Address:** 32 Daniel Webster Highway, Suite 25 **City, State, Zip:** Merrimack, NH 03054-4823	

Summary Of Conversation

Q1: What is your overall impression of the site?

A1: Gary believes everything is going well. He is not sure why there is a requirement to collect natural attenuation parameter data when site clean-up is resulting from flushing of contamination by precipitation.

Q2: Is the remedy functioning as expected?

A2: The remedy is functioning as expected as contaminant concentrations are reducing in groundwater. Gary did note that concentrations of vinyl chloride in MW 107 TT do not appear to be reducing significantly. He believes this may be due to the lack of precipitation recently.

Q3: Has there been any significant changes in the O&M activities or a chance to optimize the O&M?

A3: There has not been any, mainly because activities are limited to sampling and analysis and just began last November. The only other O&M activities include repair of signs damaged by vandals.

Q4: (Q4 was asked over the telephone on 8/8/02) Are you aware of any residential well sampling efforts?

A4: The only residential well sampling Gary is aware of is, was performed as part of the RI. Results from this effort were included in the RI Report.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 10:00 am **Date:** 7/30/02
Type: Telephone X Visit Other **Location of Visit:** Town Offices		Incoming Outgoing

Contact Made By:

Name: Mike Plumb	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Jason Vincent	**Title:** Town Planner	**Organization:** Town of Plainfield
Telephone No: (860) 230-3028 **Fax No:** (860) 230-3033 **E-Mail Address:**	**Street Address:** 8 Community Ave **City, State, Zip:** Plainfield, CT 06374	

Summary Of Conversation

Q1: What is your overall impression of the project?

A1: Jason feels the remediation is going well from his perspective. The Town has not received any complaints about the project or property. The only issue Jason is aware of is the fact that trespassers gain access to the property and ride around in ATV's. Due to concern about potential damage to the site, Jason called EPA and informed them of the trespassing. Jason is not aware of any such damage to date.

Q2: Is the Town actively involved in the remediation activities?

A2: Jason stated the Town does not actively get involved with the site and there has not been much community interest in the site.

Q3: Do you feel information is readily available regarding the site?

A3: He feels information is readily available. As the Town receives information, they place it in the library. He feels this is a good method as the library provides a neutral place for anyone to review site information.

Q4: Has there been or is there planned to be any changes in use of the site or surrounding property?

A4: Jason stated there had not been any development recently at or near the site and the only planned change in use of the site and adjacent property is a proposed access road to a proposed commercial facility. The access road is proposed to transect the Gallup's Quarry Site south of the Former Primary and Secondary Disposal Areas, and north of the Former Seepage Bed. The proposal for the road has been discussed with the State and EPA. Currently, the proposed siting of the road is under review by the State, who has preliminarily identified some issues which are not related to the Gallup's Quarry Site.

Jason said the road would be built up from existing grade and there would be no excavation of site soils. The road is required to be built up to provide the 22 feet of vertical clearance over the adjacent railroad tracks. All underground utilities would be within the fill material. The fill material, on the Gallup's property, would be certified clean. Also, fencing will be installed at the toe of slope to prevent trespassers from accessing the site.

INTERVIEW RECORD

Site Name: Gallup's Quarry	**EPA ID No.:** CTD108960972	
Subject: Five Year Review	**Time:** 10:30 am	**Date:** 7/30/02
Type: Telephone X Visit Other **Location of Visit:** Town Offices	Incoming Outgoing	

Contact Made By:

Name: Mike Plumb	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: David Allard	**Title:** First Selectmen	**Organization:** Town of Plainfield
Telephone No: (860) 230-3001 **Fax No:** (860) 230-3033 **E-Mail Address:**	**Street Address:** 8 Community Ave **City, State, Zip:** Plainfield, CT 06374	

Summary Of Conversation

Q1: What is your overall impression of the project?

A1: David stated he is not aware of any issues associated with the Gallup's Quarry Site and to his knowledge the remedy being implemented is going fine. As the Town does not receive any inquiries about the site, the Town is not actively involved with the site.

Q2: Do you feel information is readily available regarding the site?

A2: As far as he is aware, information is readily available in the library.

Q3: Has there been or is there planned to be any changes in land use of the site or surrounding areas?

A3: David is not aware of any planned construction of new housing or any other change in the land use in and around the site, with the exception of the proposed access road. David stated if the road were not approved that would have a negative impact on the Town, in particular financially.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 10:15 am **Date:** 7/30/02
Type: Telephone X Visit Other **Location of Visit:** *Town Offices*		Incoming Outgoing

Contact Made By:

Name: Mike Plumb	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Mike Saad	**Title:** Director – Economic Development	**Organization:** Town of Plainfield
Telephone No: (860) 230-3016 **Fax No:** (860) 230-3033 **E-Mail Address:**	**Street Address:** 8 Community Ave **City, State, Zip:** Plainfield, CT 06374	

Summary Of Conversation

Q1: Has the site remediation had any negative impacts on the Town from a economic perspective?

A1: Mike stated not many people know of the site. He said the site has not had any impact on the economics of the Town.

Q2: Has there been any recent development, in the last five years, or is there planned to be any development in the area of the site?

A2: Mike said he is not aware of any current or proposed plans to build any homes or other development in the vicinity of the site. Mike said the only issues from an economic standpoint is the construction of the proposed road to access the planned commercial facility.

Mike provided a list of persons to contact based on the parties TRC requested (per our SOW). However, he stated that these persons would probably not be familiar with the Site.

INTERVIEW RECORD

Site Name: Gallup's Quarry	**EPA ID No.:** CTD108960972
Subject: Five Year Review	**Time:** 11:00 am **Date:** 8/1/02
Type: X Telephone Visit Other **Location of Visit:**	Incoming X Outgoing

Contact Made By:

Name: Kiran Sears	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Jeff Young	**Title:** Supervisor	**Organization:** POTW, North Branch
Telephone No: (860) 564-3335 **Fax No:** (860) 564-3336 **E-Mail Address:**	**Street Address:** 8 Community Avenue **City, State, Zip:** Plainfield, CT 06374	

Summary Of Conversation

Q1: Are you aware of any releases to Frye Brook from the POTW?

A1: He is unaware of any sort of release to Frye Brook from the POTW. There are no accidental releases on record at the plant.

Q2: Does the POTW sample to brook? If so, do you have records of the sampling that we can review?

A2: The POTW does not sample the brook; they only sample the plant effluent water. They keep records of all sampling, and the records are public record. The DEP has complete copies of all laboratory documents relating to sampling events.

There is a large amount of data. However, if we know specifically what data we are looking for, he is willing to fax us over copies of any and all records we request. If we fax him the dates we require plant effluent data for, he will fax us copies of the analytical data.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 11:45 am **Date:** 8/1/02
Type: X Telephone Visit Other **Location of Visit:**		Incoming X Outgoing

Contact Made By:

Name: Kiran Sears	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Richard Mercier	**Title:** Former Owner	**Organization:** Gallup Water Co.
Telephone No: (860) 564-1368 **Fax No:** **E-Mail Address:**	**Street Address:** 609 Norwich Road **City, State, Zip:** Plainfield, CT 06374	

Summary Of Conversation

Q1: Do you know anything about the work that was done by the EPA at Gallup's Quarry? If so, do you feel you have been adequately informed regarding site activities and progress?

A1: He was aware that the EPA was doing work at the site. No specific information was provided to him, or to anyone else he knows of. The EPA did install and sample a number of groundwater wells on and off site property. The EPA obtained water from his company for testing, but there was no other involvement.

Q2: Do you think the site has impacted such things as local commerce, property values, etc.?

A2: He believes the presence of the site has adversely affected property values, and perhaps local commerce. The most affected area is in the immediate vicinity of the site. He feels property values have decreased in that area significantly.

Q3: Do you know of any private / residential groundwater well sampling has been performed? If so, do you know where we could get the data?

A3: He thinks the EPA or the CT DEP performed residential groundwater sampling, but has no specific knowledge of when it happened, or who may have the records. He suggests checking with the DEP.

His company wells were tested, but were not adversely affected by site contaminants.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 15:00 pm **Date:** 8/1/02
Type: X Telephone Visit Other **Location of Visit:**		X Incoming Outgoing

Contact Made By:

Name: Kiran Sears	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Mark Lewis	**Title:** Environmental Analyst	**Organization:** CT DEP, Eastern Region, Water Management Div.
Telephone No: (860) 424-3768 **Fax No:** (860) 424-4057 **E-Mail Address:**		**Street Address:** 79 Elm Street **City, State, Zip:** Hartford, CT 06106-5127

Summary Of Conversation

Q1: Are you aware of the project in any way? If so, have you been informed of site activities and progress?

A1: Yes, he is aware of the project, and the EPA has kept him informed of site activities and progress.

Q2: Do you know of any residential sampling that has occurred at wells surrounding the site? If so, do you know who to contact to get the data?

A2: He believed offsite residential sampling was performed by the state in 1993 or 1994 at one residential well in the vicinity of the site on Tarbox Road. The only compound detected was methyl tert-butyl ether, at a concentration of approximately 1 ppb. MTBE is not a site contaminant, and this well is not downgradient of the site.

He thinks the PRP group performed residential sampling in the mid to late 1990s in the vicinity of the site. We would have to contact them in order to get the information.

Q3: Are you aware of any changes in the state ARARs, groundwater quality standards, etc. since 1997?
A3: The CT DEP adopted the present groundwater standards in 1996. Water quality and groundwater standards have not been changed since prior to 1997.

At the site, groundwater is classified as standard category "GA". There has always been some question as to whether this classification is correct. They have not decided whether the clean-up standards for category "GA" should be equal to background levels or groundwater protection criteria. They have not yet decided to change this regulation.

They may be revising the ARARs and GW criteria within the next year.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 11:50 am **Date:** 8/19/02
Type: X Telephone Visit Other **Location of Visit:**		Incoming X Outgoing

Contact Made By:

Name: Kiran Sears	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Mark Lewis	**Title:** Environmental Analyst	**Organization:** CT DEP, Eastern Region, Water Management Div.

Telephone No: (860) 424-3768 **Fax No:** (860) 424-4057 **E-Mail Address:**	**Street Address:** 79 Elm Street **City, State, Zip:** Hartford, CT 06106-5127

Summary Of Conversation

Q1: Regarding the CT Hazardous Waste Management Requirements, do you know when these were last revised, and do you believe a revision would influence work at the site?

A1: They were last revised in June of 2002, but they apply to the investigation of derived waste only, and would apply only if further work involving the removal of waste materials were to be performed at the site.

Q2: Do you know if the CT Remediation Standard Regulations, the CT Surface Water and Wetland Regulations, or the CT Regulations for the Well Drilling Industry have been revised, and if so, if they would have any influence on the site?

A2: He does not believe any of them have been revised. However, the Inland Wetland Regulations are handled on a local level only. Also, revisions to the standards would only influence the site if further applicable work was to be performed.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 4:00 pm **Date:** 8/20/02
Type: X Telephone Visit Other **Location of Visit:**		Incoming X Outgoing

Contact Made By:

Name: Kiran Sears	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Richard Campaign	**Title:** Assistant Manager of Admin. and Customer Service	**Organization:** Crystal Water (Gallup's Water)
Telephone No: (860) 774-8889 x 3405 **Fax No:** **E-Mail Address:**	**Street Address:** 321 Main Street **City, State, Zip:** Davidson, CT 06239	

Summary Of Conversation

Q1: Do you have any knowledge of the Gallup's Quarry Site?

A1. Yes, a little, but mostly from reading the newspapers. Mr. C. Stanton Gallup, the original owner of Gallup Water, owned the company during the original investigations at the Quarry in the late 1970's. After the death of Mr. Gallup, Mr. Richard Mercier purchased the Water company. Mr. Mercier owned the company until 1998, when it was purchased by the Connecticut Water Company. The Connecticut Water Company also purchased Crystal Water (the company he works for) in 1999.

Q2: Do you have any knowledge of Residential Groundwater sampling occurring at properties surrounding the Gallup's Quarry site within the last 5 years?

A2: He is not aware of any sampling within the last 3 to 4 years. Prior to that, he has no knowledge of what may have occurred.

Q3: Are you aware of any pending or future water needs or any change in water usage in the area?

A3: No, he was not aware of any major upcoming changes.

INTERVIEW RECORD

Site Name: Gallup's Quarry		**EPA ID No.:** CTD108960972
Subject: Five Year Review		**Time:** 10:00 am **Date:** 8/6/02
Type: X Telephone Visit Other **Location of Visit:**		Incoming X Outgoing

Contact Made By:

Name: Amy Hamilton	**Title:** Engineer	**Organization:** TRC Environmental

Individual Contacted:

Name: Tricia Haught	**Title:** PRP Representative	**Organization:** Gallup's Quarry Superfund Site PRP Committee

Telephone No: (860) 275-0536 **Fax No:** **E-Mail Address:**	**Street Address:** **City, State, Zip:**

Summary Of Conversation

Q1: What is your overall impression of the project? Do you have any comments or concerns regarding any aspect of the site or the management of the project?

A1: Tricia doesn't have any concerns regarding the Gallup's Quarry Superfund Site. The site is basically done, as far as she is concerned, except for the monitoring. She mentioned the requirements to monitor for natural attenuation and biodegradation parameters didn't seem to make a lot of sense. Not sure the data is contributing to any major point. Seems like collecting data just to collect data. She also mentioned frustration with the State's land use restrictions that don't seem to make any sense, but said that's an issue with the State and not the EPA.

Q2: Are you aware of any residential well sampling in the area of the site (Q2 was asked during a subsequent call on 8/8/02)?

A2: She said she was unaware of any res. Sampling but said I should contact Gary Wilson of ESE to try and track down this information. If there is any, he would where to find it.

ATTACHMENT 4

SITE ACCESS AND INSTITUTIONAL CONTROLS PLAN

SITE ACCESS AND INSTITUTIONAL CONTROLS PLAN

Submitted by:

The Settling Defendants of the Gallup's Quarry Superfund Site

Dated: March 19, 2001

I. Introduction

The Settling Defendants, as defined in the Consent Decree in settlement of Civil Action No. 3:00 CV 252 (AVC) ("Consent Decree"), submit this plan for site access and institutional controls at the Gallup's Quarry Superfund Site (the "Site"). The plan serves two purposes. First, it provides a detailed site access plan as required by EPA in Section VI.A. of the Statement of Work. Second, as required by Section VI.B. of the Statement of Work, it provides that institutional controls at the site will achieve one or more of the following purposes:

a. to prevent the use of contaminated groundwater;

b. to restrict development for residential activities;

c. to limit the use and disturbance of contaminated soils in the Former Primary Disposal Area ("FPDA") and Former Seepage Bed ("FSB"), as defined in the Consent Decree;

d. to require EPA approval of any construction activities that may disturb contaminated soils at the Site; and

e. to bind and inform future purchasers of property with respect to groundwater and other restrictions associated with the Site.

II. Site Access

The Settling Defendants will use best efforts to provide access to all necessary parties. Such access will be provided both to the Site itself and to any surrounding properties at which access is proved to be necessary. A list of property owners from whom such access will be sought is attached hereto as Schedule 1. See corresponding map attached hereto at Figure 1. In order to secure all access necessary to perform the remedial action described in Section IX of the Consent Decree, the Settling Defendants shall use best efforts to negotiate with all appropriate

parties. Such access may be necessary to achieve any of the following activities: monitoring the work; verifying data or information submitted to the United States or the State; conducting investigations relating to contamination at or near the site; assessing the need for, planning, or implementing additional response actions at or near the site; obtaining samples; implementing the work pursuant to the conditions set forth in paragraph 91 of the Consent Decree; inspecting and copying records, operating logs, contracts, or other documents maintained or generated by the Settling Defendants; assessing the Settling Defendants' compliance with the Consent Decree; and determining whether the Site or other property is being used in a manner that is prohibited, restricted, or that may need to be prohibited or restricted, by or pursuant to the Consent Decree.

The Settling Defendants will use best efforts to secure all necessary access from parties occupying surrounding property. As was done in accordance with the Remedial Investigation Report and Feasibility Study Report, issued by EPA on June 13, 1997, the Settling Defendants will draft, circulate, and use best efforts to obtain site access so that all parties from whom permission for access proves to be necessary consent to access agreements similar to the one attached hereto as Exhibit A.

The Settling Defendants will also use best efforts to secure access to the Site itself. Such access will be secured by an easement. The easement will be part of an Environmental Land Use Restriction and Easement similar to the one attached hereto as Exhibit B. At this time, the property constituting the Site is subject to a probate proceeding, as the previous owner of the property recently passed away. As soon as the new owner of the property is determined, the Settling Defendants shall use best efforts to ensure that the necessary easement and land use restriction are obtained and recorded in the land records. In the meantime, the Settling Defendants have used best efforts in an attempt to secure an easement and land use restriction

from the executor of the estate. A letter seeking such a restriction and easement is attached as Exhibit C.

III. Institutional Controls

In order to achieve the objectives outlined in Section VI.B. of the Statement of Work, the Settling Defendants shall use best efforts to implement the necessary institutional controls. In addition to refraining from using the Site, or such other property, in any manner that would interfere with or adversely affect the integrity or protectiveness of the remedial measures to be implemented pursuant to the Consent Decree, and the institutional controls already in place, the Settling Defendants anticipate implementing a number of different institutional controls to achieve the various objectives described in the Statement of Work.

A. *Environmental Land Use Restriction*

The most effective method of achieving the goals of the institutional controls is an Environmental Land Use Restriction. Such a restriction will prevent the use of contaminated groundwater, restrict development for residential activities, limit the use and disturbance of contaminated soils in the FPDA and FSB, require EPA approval of any construction activities that may disturb the contaminated soils at the Site, restrict construction in the FPDA and FSB and bind and inform future purchasers of property with respect to groundwater and other restrictions associated with the Site. A draft Environmental Land Use Restriction and Easement that will achieve each of these goals is attached as Exhibit B. Because of the comprehensive nature of the restriction, it is unlikely that any other substantial institutional controls will be necessary to achieve the above goals.

B. *Physical Barriers*

The Environmental Land Use Restriction will be most effective at preventing the owner or user of the Site from interfering with any of the stated goals of the institutional controls. In addition to obtaining the Environmental Land Use Restriction, and as a further measure to prevent outside interference with the goals of the institutional controls, the Settling Defendants will ensure that existing physical barriers are maintained. Currently, there are rocks in the road blocking any motor vehicle access to the Site. Further, there are fences surrounding part of the site, further restricting access to both pedestrians as well as vehicles. The Settling Defendants will maintain the existing fencing and inspect and repair such fencing on an annual basis, and keep proper records of any such inspections and maintenance, in an effort to ensure that there will be no outside interference with the achievement of the goals of the institutional controls.

C. *Annual Reporting and State Sampling Requirements*

The Environmental Land Use Restriction should be sufficient to achieve the goals of the institutional controls. In an effort to prevent the use of contaminated ground water, and as an additional precautionary measure, the Settling Defendants will make annual submissions of information (in the form of a map and narrative description) regarding the nature and location of the plume of contamination to the Northeast District Department of Health. Additionally, any newly constructed private water supplies would be required to be sampled pursuant to § 19-13-B101 of the Connecticut Public Health Code, including analysis for organic chemicals "when reasonable grounds exist to suspect that organic chemicals may be present." The well would not be allowed to be used for domestic purposes if the analysis reveals that the maximum contaminant levels are exceeded.

D. *Potential Federal Controls*

Typically, public water supplies are subject to state, rather than federal, enforcement. In certain circumstances, however, the federal government may exercise control over contaminated water supplies. The Federal Safe Drinking Water Act allocates to the states primary enforcement responsibility for protecting public water supplies. Each state program, however, must be federally approved. Connecticut's program is federally approved.

However, even in a state, like Connecticut, whose program has been approved, the federal government may exercise its emergency power over drinking water sources where the state fails to act.

> [T]he Administrator, upon receipt of information that a contaminant which is present in or is likely to enter a public water system or an underground source of drinking water may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons, may take such actions as he may deem necessary in order to protect the health of such persons.
>
> 42 U.S.C. § 300i.

While it is unlikely that it will be necessary, the authority of the Administrator to intervene in the event that state controls fail provides an additional potential institutional control.

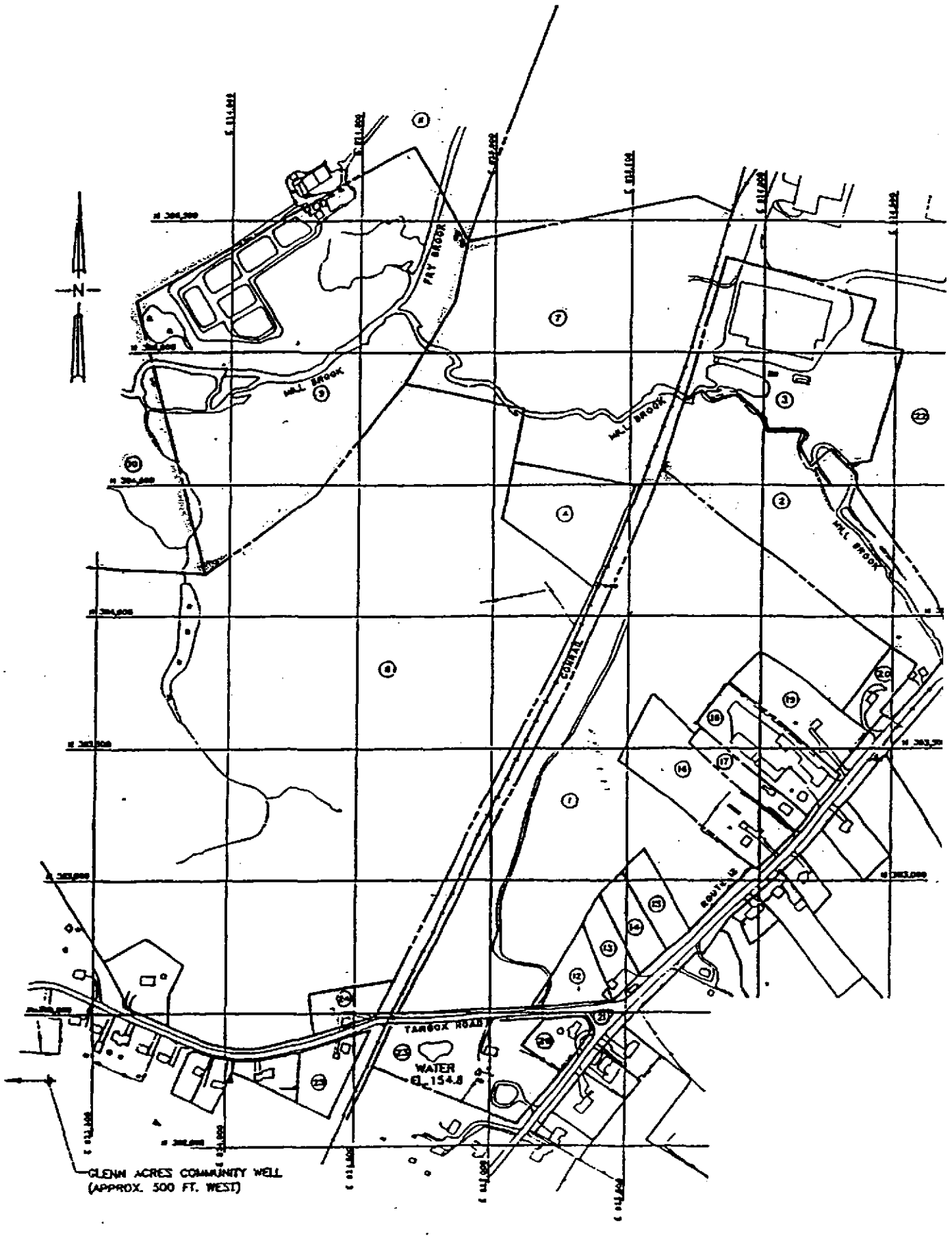
IV. Conclusion

Pursuant to the procedures outlined above, the Settling Defendants will use best efforts to provide all necessary access to the Site itself as well as the surrounding property and ensure that that all necessary institutional controls will be implemented.

SCHEDULE 1 – ACCESS AGREEMENTS TO BE SOUGHT FROM ABUTTING PROPERTY OWNERS TO GALLUP'S QUARRY SITE

Lot Number	*Owner*	*Home Address*
1	Stanton Gallup	P.O. Box 145 Plainfield, CT
4	Norman Atlas	3001 South Ocean Drive Hollywood, FL
7	Robert Gluck	Packer Road Plainfield, CT 06374
8	Tilcon Minerals, Inc.	909 Foxon Road North Branford, CT 06405
9	Paul Sweet, First Selectman Town of Plainfield	8 Community Avenue Plainfield, CT 06374

FIGURE 1



FILE NO. 90751-48

EXHIBIT A

THE GALLUP'S QUARRY PRP GROUP
c/o Tricia A. Haught
Day, Berry & Howard
CityPlace I
Hartford, CT 06103-3499
(860) 275-0536

[Address goes here]

Re: License to Enter Upon Land

Dear [name goes here]:

Your property is located in the vicinity of the Gallup's Quarry Superfund Site located on Tarbox Road in the Town of Plainfield, Connecticut. In order to monitor remediation of suspected environmental contamination at the Gallup's Quarry Superfund Site, the United States Environmental Protection Agency is requiring that certain activities take place. Because of the proximity of your property to the Site, some of the activities may have to be undertaken on your property. The purpose of these activities is to ensure that your property has not been adversely affected by contamination which might emanate from the Site. Further, these activities will help us determine what steps should be taken to remedy the situation. In short, such activities are being done for your benefit.

The Gallup's Quarry PRP Group is a group of business organizations which, without admitting responsibility for causing the conditions at the Site, have jointly agreed to accept responsibility for the remediation of such conditions. They have, accordingly, entered into a Consent Decree with the United States and the State of Connecticut that may require them to undertake certain activities at your property. Further, it may be necessary for representatives of the United States government or the State of Connecticut government to access your property as well.

In a previous stage of these proceedings, the Gallup's Quarry PRP Group sought and obtained access to your property for similar purposes. This access has since expired. By signing this Agreement, you will renew permission to the Gallup's Quarry PRP Group, its consultants, subcontractors, agents, and other authorized representatives, and the United States and its designated coordinators, agents, employees, contractors, consultants and other authorized representatives and the State of Connecticut and its designated coordinators, agents, employees, contractors, consultants and other authorized representatives to enter your property for the purposes stated herein, subject to the conditions set forth below:

1. Access will be limited to the outdoor areas of your property, between the hours of 8 A.M. and 5.P.M.. Access will further be limited to weekdays that are not recognized holidays.

2. The activities that may be conducted shall be limited to:

- soil and groundwater sampling and monitoring.

3. Every reasonable effort will be made to minimize disruption of your property and your daily life.

4. At the end of each day's work, we will leave your property in as clean a condition as is reasonable under the circumstances.

5. At the completion of the work, your property will be returned to substantially the same condition that existed prior to the work. Any holes will be filled and regraded.

6. Access will be permitted under the terms of this agreement for the length of time necessary for completion of the cleanup and monitoring effort, conducted in accordance with the requirements of the United States Environmental Protection Agency, and will continue until the Environmental Protection Agency determines that the cleanup objectives have been met.

Should you be willing to grant the requested access, please sign this document (if the property is jointly owned or otherwise co-owned , both owners must sign) and return it to the Gallup's Quarry PRP Group within 10 days of your receipt of this form in the stamped, pre-addressed, envelope provided. If you have any questions regarding this access request, you may call me at (860) 275-0536. If you have any technical questions regarding the cleanup and monitoring effort, you may call the United States Environmental Protection Agency's Remedial Project Manager, Ms. Leslie McVickar at (617) 593-9689 or the Project Coordinator for the Gallup's Quarry PRP Group, Mr. Gary Wilson at (603) 889-3737.

THE GALLUP'S QUARRY PRP GROUP

Very truly yours,

Tricia A. Haught

LANDOWNER(s):

cc: Leslie McVickar
Gary Wilson
Gallup's Quarry Technical Committee

EXHIBIT B

DECLARATION OF ENVIRONMENTAL LAND USE RESTRICTION AND GRANT OF EASEMENT

This Declaration of Environmental Land Use Restriction and Grant of Easement is made this day of _____, 2001, between _____ ("the Grantor") and the Commissioner of Environmental Protection of the State of Connecticut ("the Grantee").

WITNESSETH:

WHEREAS, Grantor is the owner in fee simple of certain real property (the "Property") known as the Gallup's Quarry Superfund Site, encompassing approximately 29 acres, located on Tarbox Road in the Town of Plainfield in Windham County, Connecticut, designated at Lot 32, Block 30 on tax map number 10 of the Town of Plainfield in Windham County, more particularly described on Exhibit A which is attached hereto and made a part hereof; and

WHEREAS, the Grantee has determined that the environmental land use restriction set forth below is consistent with regulations adopted by him pursuant to Section 22a-133k of the Connecticut General Statutes; and

WHEREAS, the Grantee has determined that this environmental land use restriction will effectively protect public health and the environment from the hazards of pollution; and

WHEREAS, the Grantee's written approval of this Environmental land use restriction is contained in the document attached hereto as Exhibit B (the "Decision Document") which is made a part hereof; and

WHEREAS, the property or portion thereof identified in the class A-2 survey ("the Subject Area") which survey is attached hereto as Exhibit C which is made a part hereof, contains pollutants; and

WHEREAS, to prevent exposure to or migration of such pollutants and to abate hazards to human health and the environment, and in accordance with the Decision Document, the Grantor desires to impose certain restrictions upon the use, occupancy, and activities of and at the Subject Area, and to grant this environmental land use restriction to the Grantee on the terms and conditions set forth below; and

WHEREAS, Grantor intends that such restrictions shall run with the land and be binding upon and enforceable against Grantor and Grantor's successors and assigns;

NOW, THEREFORE, Grantor agrees as follows:

1. Purpose

In accordance with the Decision Document, the purpose of this Environmental land use restriction is to assure that contaminated portions of the Subject Area are not used for residential activities, that contaminated groundwater at the Subject Area is not utilized for drinking purposes, and that buildings are not constructed over soils or ground water at the Subject Area polluted with substances in concentrations exceeding the volatilization criteria established in R.C.S.A. *sections 22a-133k-1 through 22a-133k-3, inclusive.*

2. Restrictions Applicable to the Subject Area

In furtherance of the purposes of this environmental land use restriction, Grantor shall assure that use, occupancy, and activity of and at the Subject Area are restricted as follows:

a. Use.

Any portion of the Subject Area affected by contamination above cleanup levels, as specified in Section IX, Paragraph 26(b)(1) of the Consent Decree in settlement of Civil Action No. 3:00 CV 252 (AVC) ("Consent Decree"), shall not be developed for residential activities as defined in the Connecticut Department of Environmental Protection Remediation Standard Regulations, in R.C.S.A. Section 133k-1(a)(53).

b. Ground water.

Pursuant to Section IX, Paragraph 26(b)(3) of the Consent Decree, contaminated groundwater underlying the Subject Area shall not be withdrawn for any purpose unless otherwise provided for in the Consent Decree's Statement of Work. Groundwater supply wells shall not be installed or otherwise operated in a manner that would conflict with the natural attenuation of groundwater at the Subject Area or that would conduct contaminated groundwater from the Subject Area.

c. Disturbances.

(i) Contaminated soils in the Former Primary Disposal Area and Former Seepage Bed shall not be disturbed, except pursuant to a plan approved by EPA, after reasonable opportunity for review and comment by the CT DEP. Consent Decree, Section IX, Paragraph 26(b)(4).

(ii) No use or activity shall be permitted which will disturb any of the remedial measures implemented at the Property, including without limitation: the installation of groundwater monitoring wells, long-term monitoring of groundwater, surface water, and soils, installation of signs, and maintenance of monitoring equipment, entry fences and signs. Consent Decree, Section IX, Paragraph 26(b)(5).

d. Construction.

No building shall be constructed in the Former Primary Disposal Area and Former Seepage Bed, except pursuant to a plan approved by EPA for approval, after reasonable opportunity for review and comment by the CT DEP. Consent Decree, Section IX, Paragraph 26(b)(4).

3.

Except as provided in Paragraph 4 below, no action shall be taken, allowed, suffered, or omitted if such action or omission is reasonably likely to:

(i) Create a risk of migration of pollutants or a potential hazard to human health or the environment; or

(ii) Result in a disturbance of the structural integrity of any engineering controls or other structures designed or utilized at the Property to contain pollutants or limit human exposure to pollutants.

4. Emergencies

In the event of an emergency which presents a significant risk to human health or the environment, the application of Paragraph 3 above may be suspended, provided such risk cannot be abated without suspending such Paragraph and the Grantor:

(i) Immediately notifies the Grantee of the emergency;

(ii) Limits both the extent and duration of the suspension to the minimum reasonably necessary to adequately respond to the emergency;

(iii) Implements all measures necessary to limit actual and potential present and future risk to human health and the environment resulting from such suspension; and

(iv) Implements a plan approved in writing by the Grantee, on a schedule approved by the Grantee, to ensure that the Subject Area is remediated in accordance with R.C.S.A. sections 22a-133k-1 through 22a-133k-3, inclusive, or restored to its condition prior to such emergency.

5. Release of Restriction; Alterations of Subject Area

Grantor shall not make, or allow or suffer to be made, any alteration of any kind in, to, or about any portion of any of the Subject Area inconsistent with this Environmental land use restriction unless the Grantor has first recorded the Grantee's written approval of such alteration upon the land records of Plainfield. The Grantee shall not approve any such alteration and shall not release the Property from the provisions of this environmental land use restriction unless the Grantor demonstrates to the Grantee's satisfaction that Grantor has remediated the Subject Area in accordance with R.C.S.A. sections 22a-133k-1 through 22a-133k-3, inclusive.

6. Grant of Easement to the Grantee

Grantor hereby grants and conveys to the Grantee, his agents, contractors, and employees, and to any person performing pollution remediation activities under the direction thereof, a non-exclusive easement (the "Easement") over the Subject Area and over such other parts of the Property as are necessary for access to the Subject Area or for carrying out any actions to abate a threat to human health or the environment associated with the Subject Area.

Pursuant to this Easement, the Grantee, his agents, contractors, and employees, and any person performing pollution remediation activities under the direction thereof, may enter upon and inspect the Property and perform such investigations and actions as the Grantee deems necessary for any one or more of the following purposes:

(i) Ensuring that use, occupancy, and activities of and at the Property are consistent with this environmental land use restriction;

(ii) Ensuring that any remediation implemented complies with R.C.S.A. sections 22a-133k-1 through 22a-133k-3, inclusive; and

(iii) Performing any additional investigations or remediation necessary to protect human health and the environment.

7. Notice and Time of Entry onto Property

Entry onto the Property by the Grantee pursuant to this Easement shall be upon reasonable notice and at reasonable times, provided that entry shall not be subject to these limitations if the Grantee determines that immediate entry is necessary to protect human health or the environment.

8. Notice to Lessees and Other Holders of Interests in the Property

Grantor, or any future holder of any interest in the property, shall cause any lease, grant, or other transfer of any interest in the Property to include a provision expressly requiring the lessee, grantee, or transferee to comply with this environmental land use restriction and Grant of Easement. The failure to include such provision shall not affect the validity or applicability to the Property of this environmental land use restriction and Grant of Easement.

9. Persons Entitled to Enforce Restrictions

The restrictions in this environmental land use restriction on use, occupancy, and activity of and at the Property shall be enforceable in accordance with section 22a-133p of the General Statutes.

10. Severability and Termination

If any court of competent jurisdiction determines that any provision of this environmental land use restriction or Grant of Easement is invalid or unenforceable, such provision shall be deemed to have been modified automatically to conform to the requirements for validity and enforceability as determined by such court. In the event that the provision invalidated is of such nature that it cannot be so modified, the provision shall be deemed deleted from this instrument as though it had never been included herein. In either case, the remaining provisions of this instrument shall remain in full force and effect. Further, in either case, the Grantor shall submit a copy of this restriction and of the judgement of the Court to the Grantee in accordance with R.C.S.A. section 22a-133q-1(l). This environmental land use restriction shall be terminated if the Grantee provides notification pursuant to R.C.S.A. section 22a-133q-1(l).

11. Binding Effect

All of the terms, covenants and conditions of this environmental land use restriction and grant of easement shall run with the land and shall be binding on the Grantor, the Grantor's successors and assigns, and each owner and any other party entitled to possession or use of the Property during such period of ownership or possession.

12. Terms Used Herein

The definitions of terms used herein shall be the same as the definitions contained in sections 22a-133k-1 and 22a-133o-1 of the Regulations of Connecticut State Agencies as such sections existed on the date of execution of this environmental land use restriction.

EXHIBIT C

Date

Milton Jacobsen, Esq.
Brown, Jacobsen, Tillinghast, Lahan & King
22 Courthouse Square
Norwich, CT 06360

Re: Gallup's Quarry Superfund Site

Dear Mr. Jacobsen:

I write this letter on behalf of the Gallup's Quarry Potentially Responsible Party Group (the "PRP Group"). As you may know, the PRP Group is a group of companies and individuals which, without admitting responsibility for causing the conditions at the Gallup's Quarry Superfund Site (the "Site"), have jointly agreed to accept responsibility for the remediation of such conditions. As you may also know, prior to his passing, Mr. C. Stanton Gallup was, himself, one of the original PRPs. The Gallup's Quarry PRP Group has entered into a Consent Decree with the United States and the State of Connecticut that requires them and representatives of the United States and Connecticut Government to undertake certain activities at the Site.

In order to monitor remediation of suspected environmental contamination at the Site, the United States Environmental Protection Agency is requiring that a number of activities take place. The purpose of these activities is to ensure that any adverse affects of contamination at the Site are minimized. Further, these activities will help us determine what steps should be taken to remedy the situation. Finally, the activities will include implementation of the remedies, themselves. In short, such activities are being done for the benefit of the Site, itself.

Pursuant to the Consent Decree, the PRP Group is required to seek an environmental land use restriction and easement for the Site. We understand that, since Mr. Gallup passed away, the distribution of his estate has yet to be determined. According to a representative at the Probate Court in Plainfield, it is unlikely that this situation will have changed by the end of the year.

Meanwhile, time is of the essence in obtaining the environmental land use restriction and easement. The necessary parties will not be able to perform remediation until the land use restriction and easement are obtained. The sooner these are secured, then, the sooner remediation of the Site can commence. Further, the PRP Group has agreed to adhere to a fairly rigid schedule

in obtaining the necessary documents and performing the remediation. Thus, the PRP Group cannot afford to wait until the new owner of the property at the Site is determined. It is important that this process move as swiftly as possible.

We have learned from the Probate Court in Plainfield that you are the Executor of Mr. Gallup's estate. As the new owner of the property is not likely to take title in the near future, we turn to you for assistance in obtaining the land use restriction and easement. The final document is expected to be substantially similar to the enclosed draft Declaration of Environmental Land Use Restriction and Grant of Easement. This is only a draft for substantive purposes. The substance is largely dictated by requirements of the Consent Decree as well as state and federal environmental laws and regulations.

Please do not hesitate do call me if you have any questions relating to these matters. I look forward to your prompt response and assistance in this matter.

Very truly yours,

Tricia A. Haught

cc: Leslie McVickar

ATTACHMENT 5

PROPOSED LOCATION OF ACCESS ROAD

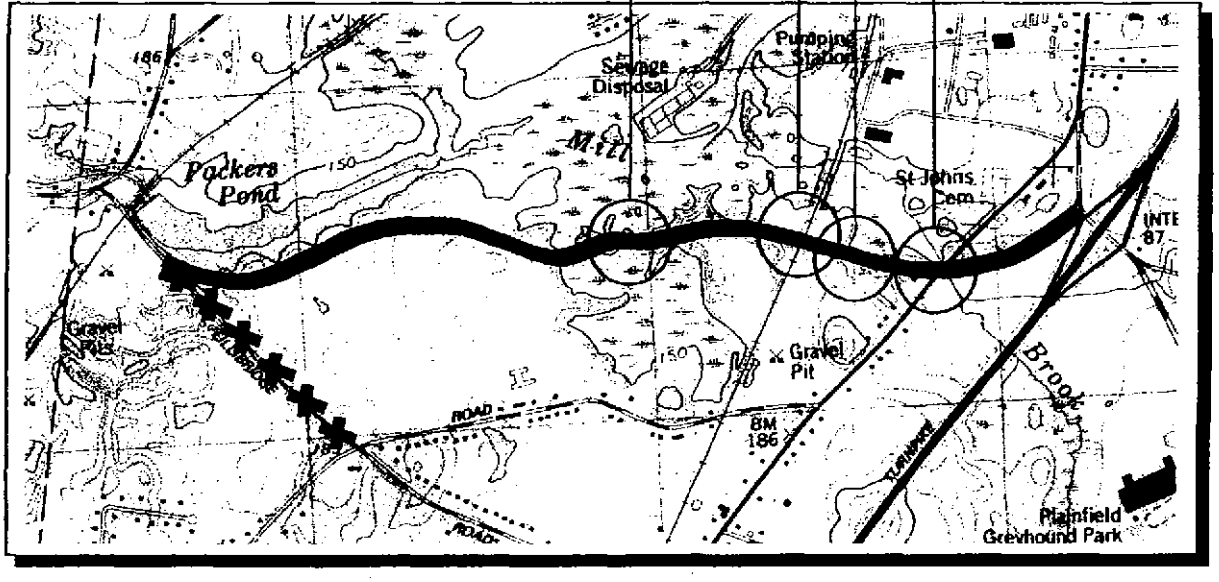
OPTION 4 MIDDLE ROUTE – LAYOUT

Upgrade the existing intersection. The upgrade will likely include sightline improvements, signalization and turning lanes.

Construct a new access road to the site. The new access road construction will involve crossing the Gallup's Quary Superfund Site.

The new access road construction will involve a bridge over the Providence and Worcester Railroad.

The new access road construction will involve a culvert crossing of a significant wetland area.



ATTACHMENT 6

UPDATED TOXICITY DATA AND RISK CALCULATIONS

Table A-1
Gallups Quarry
Ground Water
Ingestion - Future Employee

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotient	CT Cancer Risk	CT Hazard Quotient
1,2-Dichloroethane	9.09E-06	2.54E-05	9.09E-06	2.54E-05	9.10E-02	3.00E-02	8.E-07	8.E-04	8.E-07	8.E-04
1,1-Dichloroethene	7.10E-05	1.99E-04	3.11E-05	8.72E-05	6.00E-01	9.00E-03	**4.E-05**	2.E-02	**2.E-05**	1.E-02
1,2-Dichloroethene (total)	2.60E-03	7.29E-03	7.91E-04	2.22E-03	NA	2.00E-02	NA	4.E-01	NA	1.E-01
1,2-Dichloropropane	1.92E-05	5.38E-05	1.47E-05	4.11E-05	6.80E-02	NA	**1.E-06**	NA	**1.E-06**	NA
Benzene	1.49E-05	4.16E-05	1.49E-05	4.16E-05	5.50E-02	3.00E-03	8.E-07	8.E-03	8.E-07	8.E-03
Carbon tetrachloride	1.02E-05	2.86E-05	1.02E-05	2.86E-05	1.30E-01	7.00E-04	**1.E-06**	4.E-02	**1.E-06**	4.E-02
Chloroform	1.40E-05	3.91E-05	1.40E-05	3.91E-05	2.30E-02	1.00E-02	3.E-07	4.E-03	3.E-07	4.E-03
Methylene Chloride	1.10E-04	3.23E-04	6.12E-05	1.71E-04	7.50E-03	6.20E-02	8.E-07	5.E-03	5.E-07	3.E-03
Tetrachloroethene	9.17E-05	2.57E-04	2.78E-05	7.78E-05	5.20E-02	1.00E-02	**5.E-06**	3.E-02	**1.E-06**	8.E-03
Trichloroethene	1.77E-04	4.97E-04	2.45E-05	6.86E-05	1.10E-02	2.00E-03	**2.E-06**	2.E-01	3.E-07	3.E-02
Vinyl Chloride	9.70E-04	2.72E-03	2.43E-04	6.80E-04	7.20E-01	3.00E-03	**7.E-04**	9.E-01	**2.E-04**	2.E-01
Xylene	2.37E-03	6.63E-03	9.26E-06	2.59E-05	NA	2.00E+00	NA	3.E-03	NA	1.E-05
bis(2-Ethylhexyl)phthalate	1.22E-04	3.42E-04	3.32E-05	9.29E-05	1.40E-02	2.00E-02	**2.E-06**	2.E-02	5.E-07	5.E-03
Di-n-butylphthalate	8.27E-06	2.32E-05	5.14E-06	1.44E-05	NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	NA	NA			NA	NA	NA	NA	NA	NA
Phenanthrene	1.19E-05	3.33E-05	1.18E-05	3.11E-05	NA	4.00E-02	NA	8.E-04	NA	8.E-04
1,4-Dichlorobenzene	1.28E-05	3.59E-05	1.01E-05	2.82E-05	2.40E-02	3.00E-02	3.E-07	1.E-03	2.E-07	9.E-04
Aroclor 1242	1.68E-06	4.7er-6	1.57E-06	4.40E-06	2.00E+00	NA	**3.E-06**	NA	**3.E-06**	NA
Arsenic	5.87E-05	1.64E-04	1.44E-05	4.04E-05	1.50E+00	3.00E-04	**9.E-05**	5.E-01	**2.E-05**	1.E-01
Beryllium	2.80E-06	7.83E-06	2.48E-06	6.95E-06	4.30E+00	2.00E-03	**1.E-05**	4.E-03	**1.E-05**	3.E-03
Iron	9.77E-02	2.74E-01	2.48E-06	3.05E-02	NA	NA	NA	NA	NA	NA
Lead	6.24E-05	1.75E-04	9.23E-06	2.58E-05	NA	NA	NA	NA	NA	NA
Manganese	1.01E-02	2.81E-02	1.31E-03	3.67E-03	NA	1.40E-01	NA	2.E-01	NA	3.E-02
Silver	1.76E-02	4.92E-02	5.86E-03	1.64E-02	NA	5.00E-03	NA	**1.E+01**	NA	**3.E+00**
Zinc	1.62E-01	4.53E-01	2.03E-02	5.69E-02	NA	3.00E-01	NA	2.E+00	NA	2.E-01

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	**9.E-04**	**1.E+01**	**2.E-04**	**4.E+00**

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-2
Gallups Quarry
Surface Soil
Incidental Ingestion - Future Site Employee

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotiant	CT Cancer Risk	CT Hazard Quotiant
Benzo(g,h,i)perylene	1.05E-08	2.94E-08	1.69E-09	1.47E-08	NA	NA	NA	NA	NA	NA
Phenanthrene	1.33E-08	3.72E-08	2.39E-09	1.86E-08	NA	NA	NA	NA	NA	NA
Aroclor-1254	1.43E-06	4.01E-06	2.58E-07	2.01E-06	2.00E+00	2.00E-05	**3.E-06**	2.E-01	5.E-07	1.E-01
Aroclor-1260	6.99E-07	1.82E-06	1.26E-07	9.10E-07	2.00E+00	NA	**1.E-06**	NA	3.E-07	NA
Dieldrin	1.82E-09	5.10E-09	3.28E-10	2.55E-09	1.60E+01	5.00E-05	3.E-08	1.E-04	5.E-09	5.E-05
Arsenic	7.16E-07	2.01E-06	1.29E-07	1.00E-06	1.5	3.00E-04	**1.E-06**	7.E-03	2.E-07	3.E-03
Beryllium	2.38E-07	6.65E-07	4.28E-08	3.33E-07	4.3	2.00E-03	**1.E-06**	3.E-04	2.E-07	2.E-04
Cyanide	2.70E-06	7.55E-06	4.86E-07	3.78E-06	NA	2.00E-02	NA	4.E-04	NA	2.E-04
Iron	2.95E-03	8.27E-03	5.32E-04	4.13E-03	NA	NA	NA	NA	NA	NA
Lead	4.64E-06	1.30E-05	8.35E-07	6.50E-06	NA	NA	NA	NA	NA	NA

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	**6.E-06**	2.E-01	**1.E-06**	1.E-01

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-3
Gallups Quarry
Surface Soil
Dermal Contact - Future Site Employee

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotient	CT Cancer Risk	CT Hazard Quotient
Aroclor-1254	4.90E-06	1.37E-05	3.00E-07	2.33E-06	2.00E+00	2.00E-05	**1.E-05**	7.E-01	6.E-07	1.E-01
Aroclor-1260	2.22E-06	6.22E-06	1.36E-07	1.06E-06	2.00E+00	NA	4.E-06	NA	3.E-07	NA

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	**1.E-05**	7.E-01	9.E-07	1.E-01

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-4
Gallups Quarry
Surface and Subsurface Soil
Incidental Ingestion - Future Excavation Worker

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotient	CT Cancer Risk	CT Hazard Quotient
2-Methylnaphthalene	3.74E-09	1.05E-06	3.74E-09	1.05E-06	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	5.23E-10	1.47E-06	5.23E-10	1.47E-06	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate	6.54E-09	1.84E-06	6.54E-09	1.84E-06	NA	NA	NA	NA	NA	NA
Phenanthrene	6.63E-10	1.86E-07	6.63E-10	1.86E-07	NA	NA	NA	NA	NA	NA
bis(2-ethylhexyl)phthalate	8.02E-07	2.25E-04	8.02E-07	2.25E-04	1.40E-02	2.00E-02	1.E-08	1.E-02	1.E-08	1.E-02
Aroclor-1242	4.73E-10	1.33E-07	4.73E-10	1.33E-07	2.00E+00	NA	9.E-10	NA	9.E-10	NA
Aroclor-1248	1.74E-10	4.90E-08	1.74E-10	4.90E-08	2.00E+00	NA	3.E-10	NA	3.E-10	NA
Aroclor-1254	3.02E-08	8.47E-06	3.02E-08	8.47E-06	2.00E+00	2.00E-05	6.E-08	4.E-01	6.E-08	4.E-01
Aroclor-1260	3.74E-09	1.05E-06	3.74E-09	1.05E-06	2.00E+00	NA	7.E-09	NA	7.E-09	NA
Dieldrin	4.78E-11	1.34E-08	4.78E-11	1.34E-08	1.60E+01	5.00E-05	8.E-10	3.E-04	8.E-10	3.E-04
Arsenic	2.69E-08	7.57E-06	2.69E-08	7.54E-06	1.50E+00	3.00E-04	4.E-08	3.E-02	4.E-08	3.E-02
Beryllium	9.42E-09	2.64E-06	9.42E-09	2.64E-06	4.30E+00	2.00E-03		1.E-03	4.E-08	1.E-03
Cyanide	1.02E-07	2.87E-05	1.02E-07	2.87E-05	NA	2.00E-02	NA	1.E-03	NA	1.E-03
Iron	1.46E-04	4.09E-02	1.46E-04	4.09E-02	NA	NA	NA	NA	NA	NA
Lead	1.25E-07	3.50E-05	1.25E-07	3.50E-05	NA	NA	NA	NA	NA	NA
Thallium	4.54E-09	1.27E-06	4.54E-09	1.27E-06	NA	6.00E-05	NA	2.E-02	NA	2.E-02
							0			

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	1.E-07	5.E-01	2.E-07	5.E-01

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-5
Gallups Quarry
Surface and Subsurface Soil
Dermal Contact - Future Excavation Worker

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotient	CT Cancer Risk	CT Hazard Quotient
Aroclor-1242	3.37E-10	9.46E-08	5.73E-11	1.61E-08	2.00E+00	NA	7.E-10	NA	1.E-10	NA
Aroclor-1248	1.24E-10	3.49E-08	2.12E-11	5.94E-09	2.00E+00	NA	2.E-10	NA	4.E-11	NA
Aroclor-1254	2.15E-08	6.04E-06	3.66E-09	1.03E-06	2.00E+00	2.00E-05	4.E-08	3.E-01	7.E-09	5.E-02
Aroclor-1260	2.67E-09	7.48E-07	4.54E-10	1.27E-07	2.00E+00	NA	5.E-09	NA	9.E-10	NA

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	5.E-08	3.E-01	8.E-09	5.E-02

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-6
Gallups Quarry
Surface Soil
Incidental Ingestion - Present/Future Youth Trespasser

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotiant	CT Cancer Risk	CT Hazard Quotiant
Benzo(g,h,I)perylene	9.15E-10	6.41E-09	4.59E-10	3.21E-09	NA	NA	NA	NA	NA	NA
Phenanthrene	1.16E-09	8.12E-09	5.81E-10	4.06E-09	NA	NA	NA	NA	NA	NA
Aroclor-1254	1.25E-07	8.75E-07	6.27E-08	4.38E-07	2.00E+00	2.00E-05	3.E-07	4.E-02	1.E-07	2.E-02
Aroclor-1260	5.68E-08	3.97E-07	2.85E-08	1.99E-07	2.00E+00	NA	1.E-07	NA	6.E-08	NA
Dieldrin	1.59E-10	1.11E-09	7.97E-11	5.57E-10	1.60E+01	5.00E-05	3.E-09	2.E-05	1.E-09	1.E-05
Arsenic	6.25E-08	4.38E-07	3.14E-08	2.19E-07	1.5	3.00E-04	9.E-08	1.E-03	5.E-08	7.E-04
Beryllium	2.07E-08	1.45E-07	1.04E-08	7.27E-08	4.3	2.00E-03	9.E-08	7.E-05	4.E-08	4.E-05
Cyanide	2.35E-07	1.65E-06	1.18E-07	8.25E-07	NA	2.00E-02	NA	8.E-05	NA	4.E-05
Iron	2.58E-04	1.81E-03	1.29E-04	9.03E-04	NA	NA	NA	NA	NA	NA
Lead	4.05E-07	2.84E-06	2.03E-07	1.42E-06	NA	NA	NA	NA	NA	NA

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	5.E-07	5.E-02	3.E-07	2.E-02

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-7
Gallups Quarry
Surface Soil
Dermal Contact - Present/Future Youth Trespasser

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotiant	CT Cancer Risk	CT Hazard Quotiant
Aroclor-1254	3.40E-07	2.38E-06	5.48E-08	3.46E-07	2.00E+00	2.00E-05	7.E-07	1.E-01	1.E-07	2.E-02
Aroclor-1260	1.54E-07	1.08E-06	2.49E-08	1.54E-07	2.00E+00	NA	3.E-07	NA	5.E-08	NA

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	1.E-06	1.E-01	2.E-07	2.E-02

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-8
Gallups Quarry
Sediments
Incidental Ingestion - Present/Future Youth Trespasser

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotient	CT Cancer Risk	CT Hazard Quotient
Acenaphthene	2.14E-10	1.50E-09	1.07E-10	7.48E-10	NA	6.00E-02	NA	3 E-08	NA	1 E-08
Acenaphthylene	9.57E-10	6 70E-09	4 78E-10	3 35E-09	NA	NA	NA	NA	NA	NA
Anthracene	1 12E-09	7.84E-09	5 60E-10	3.92E-09	NA	3.00E-01	NA	3.E-08	NA	1.E-08
Benzo(a)anthracene	3.15E-09	2.21E-08	1.58E-09	1.10E-08	7.30E-01	NA	2.E-09	NA	1.E-09	NA
Benzo(a)pyrene	4.07E-09	2.85E-08	2.04E-09	1.42E-08	7.30E+00	NA	3.E-08	NA	1.E-08	NA
Benzo(b)fluoranthene	5.19E-09	3.63E-08	2.59E-09	1.82E-08	7.30E-01	NA	4.E-09	NA	2.E-09	NA
Benzo(g,h,I)perylene	1.32E-09	9.26E-09	6.61E-10	4.63E-09	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	3.66E-09	2.56E-08	1.83E-09	1.28E-08	7.30E-02	NA	3.E-10	NA	1.E-10	NA
Chrysene	4.07E-09	2.85E-08	2.04E-09	1.42E-08	7.30E-03	NA	3.E-11	NA	1.E-11	NA
Fluoranthene	9.06E-09	6.34E-08	4.54E-09	3.17E-08	NA	4.00E-02	NA	2.E-06	NA	8.E-07
Fluorene	9.16E-10	6.41E-09	4.58E-10	3.21E-09	NA	4.00E-02	NA	2.E-07	NA	8.E-08
Indeno(1,2,3,cd)pyrene	1.63E-09	1.14E-08	8.14E-10	5.70E-09	7.30E-01	NA	1.E-09	NA	6.E-10	NA
2-Methylnaphthalene	1.29E-09	9.01E-09	6.44E-10	4.51E-09	NA	NA	NA	NA	NA	NA
Naphthalene	1.09E-09	7.62E-09	5.44E-10	3.81E-09	NA	2.00E-02	NA	4.E-07	NA	2.E-07
Phenanthrene	5.70E-09	3.99E-08	2.85E-09	1.99E-08	NA	NA	NA	NA	NA	NA
4,4-DDD	1.38E-10	9.63E-10	6.88E-11	4.82E-10	2.40E-01	NA	3.E-11	NA	2.E-11	NA
4,4-DDE	1.48E-10	1.04E-09	7.40E-11	5.18E-10	2.40E-01	NA	4.E-11	NA	2.E-11	NA
4,4-DDT	3.08E-11	2.16E-10	1.54E-11	1.08E-10	2.40E-01	5.00E-04	7.E-12	4.E-07	4.E-12	2.E-07
Aroclor-1254	5.57E-10	3.90E-09	2.79E-10	1.95E-09	2.00E+00	2.00E-05	1.E-09	2.E-04	6.E-10	1.E-04
Aroclor- 1260	1.91E-10	1.34E-09	9.57E-11	6.70E-10	2.00E+00	NA	4.E-10	NA	2.E-10	NA
Endosulfan Sulfate	1.88E-11	1.32E-10	9.41E-12	6.59E-11	NA	6.00E-03	NA	2 E-08	NA	1.E-08
Endrin Keton	2.81E-11	1.97E-10	1.40E-11	9.83E-11	NA	3.00E-04	NA	7.E-07	NA	3 E-07
alpha-Chlordane	1.03E-11	7.19E-11	5.14E-12	3.60E-11	3.50E-01	5.00E-04	4.E-12	1.E-07	2.E-12	7 E-08
Aluminum	9.13E-05	6.39E-04	4.56E-05	3.19E-04	NA	1.00E+00	NA	6.E-04	NA	3 E-04
Antimony	1.72E-07	1.21E-06	8.62E-08	6.03E-07	NA	4.00E-04	NA	3.E-03	NA	2 E-03
Arsenic	6.31E-09	4.42E-08	3.15E-09	2.21E-08	1.5	3.00E-04	9.E-09	1.E-04	5 E-09	7 E-05
Beryllium	6.41E-09	4.49E-08	3.21E-09	2.24E-08	4.3	2.00E-03	3.E-08	2.E-05	1.E-08	1 E-05
Iron	7.47E-05	5.23E-04	3.73E-05	2.61E-04	NA	3.00E-01	NA	2.E-03	NA	9 E-04
Lead	1.54E-07	1.08E-06	7.69E-08	5.38E-07	NA	NA	NA	NA	NA	NA
Manganese	1.64E-06	1.15E-05	8.19E-07	5.74E-06	NA	2.40E-02	NA	5 E-04	NA	2 E-04

Note: Highlighted toxicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	8.E-08	6.E-03	4.E-08	3.E-03

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-9
Gallups Quarry
Sediments
Dermal Contact - Present/Future Youth Trespasser

Constituent	RME mg/kg/day Cancer	RME mg/kg/day Non-Cancer	CT mg/kg/day Cancer	CT mg/kg/day Non-Cancer	Oral Slope Factor (mg/kg/day)-1	RfD mg/kg/day	RME Cancer Risk	RME Hazard Quotient	CT Cancer Risk	CT Hazard Quotient
Aroclor-1254	6.05E-10	9.76E-11	6.83E-10	4.24E-09	2.00E+00	2.00E-05	1.E-09	5.E-06	1.E-09	2.E-04
Aroclor-1260	2.08E-10	3.35E-11	2.35E-10	1.46E-09	2.00E+00	NA	4.E-10	NA	5.E-10	NA

Note: Underlined tocicity values changed from original report

	Cancer Risk	Hazard Index	Cancer Risk	Hazard Index
TOTAL:	2.E-09	5.E-06	2.E-09	2.E-04

Bold = Cancer Risk >1.0E-05 or Hazard Quotient > 1.0E+00

Table A-10
Cancer and Non-Cancer Risk Calcuations
Revised vs Original
Gallups Quarry
Plainfield, Connecticut

Scenario	RME				CT			
	Cancer		Non-Cancer		Cancer		Non-Cancer	
	Original	Revised	Original	Revised	Original	Revised	Original	Revised
Ingestion - Future Employee - GW	**2.E-03**	**9.E-04**	**1.E+01**	**1.E+01**	**5.E-04**	**2.E-04**	**4.E+00**	**4.E+00**
Ingestion - Future Employee - SS	**2.E-05**	**6.E-06**	3.E-01	2.E-01	**3.E-06**	1.E-06	2.E-01	1.E-01
Dermal Contact - Future Site Employee - SS	**5.E-05**	**1.E-05**	8.E-01	7.E-01	**3.E-06**	9.E-07	1.E-01	1.E-01
Incidental Ingestion - Future Excavation Worker - Soil	4.E-07	1.E-07	5.E-01	5.E-01	4.E-07	2.E-07	5.E-01	5.E-01
Deraml Contact - Future Excavation Worker - Soil	2.E-07	5.E-08	3.E-01	3.E-01	3.E-08	8.E-09	6.E-02	5.E-02
Incidental Ingestion - Present/Future Youth Trespasser - SS	9.E-08	5.E-07	4.E-03	5.E-02	4.E-08	3.E-07	2.E-03	2.E-02
Dermal Contact - Present/Future Youth Trespasser - SS	**4.E-06**	**1.E-06**	2.E-01	1.E-01	6.E-07	2.E-07	3.E-02	2.E-02
Incidental Ingestion - Present/Future Youth Trespasser - SD	9.E-08	8.E-08	4.E-03	6.E-03	4.E-08	4.E-08	2.E-03	3.E-03
Dermal Contact - Present/Future Youth Trespasser - SD	6.E-09	2.E-09	2.E-04	5.E-06	1.E-09	2.E-09	4.E-05	2.E-04

Note: Bolded values exceed cancer risk critieria of 1E-06 or non-cancer risk hazard quotiant (HQ) of 1.